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(JICA)

People's Republic of Bangladesh
Ministry of Road Transport and Bridges (MoRTB)
Road Transport and Highways Division (RTHD)
Roads and Highways Department (RHD)

Supervisory Manual for Axle Load Control Station

Final Draft Version

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Prepared by
The Project of Capacity Development of
Managing and Controlling Overloaded Vehicles

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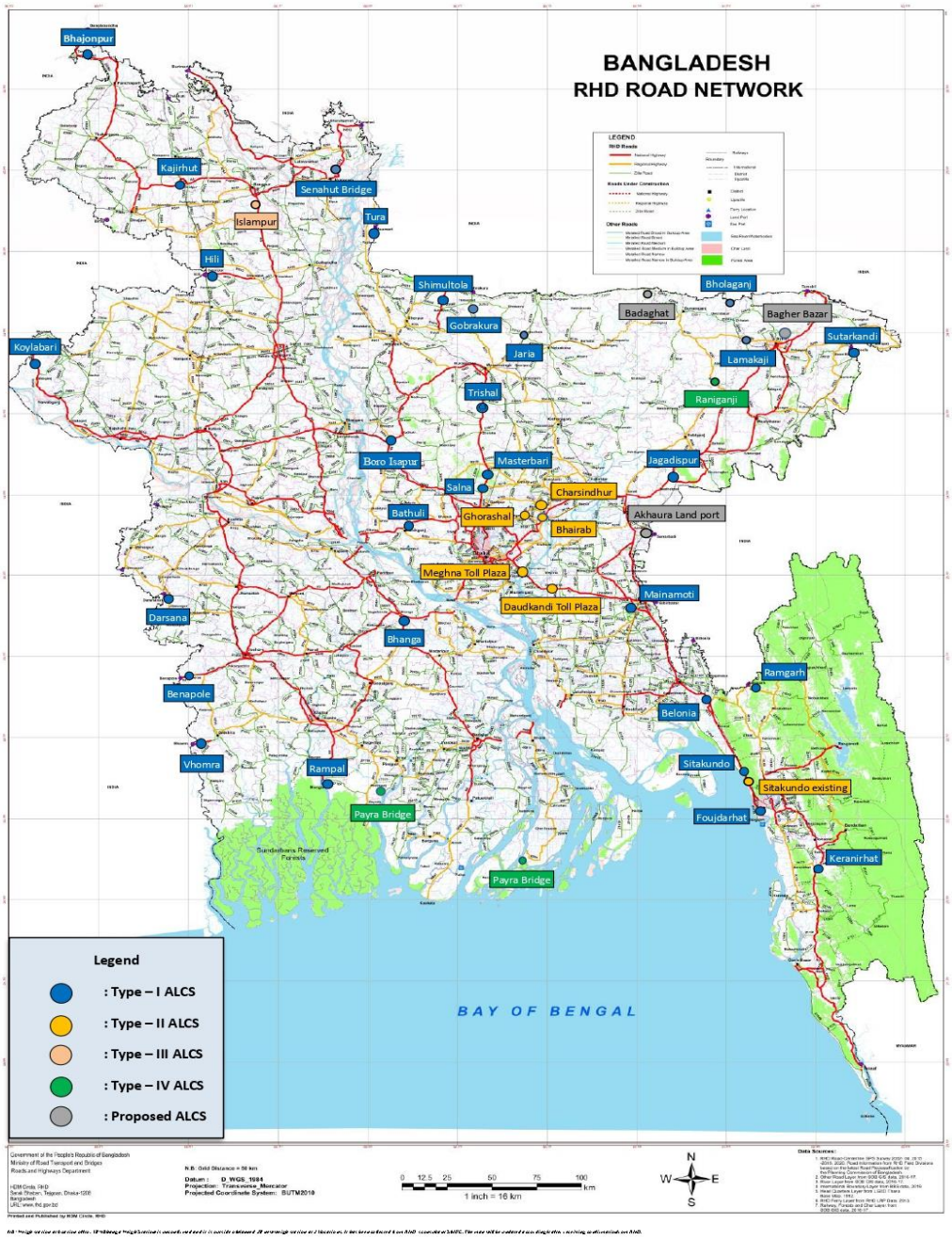

Location Map of Axle Load Control Stations (ALCSs) in Roads and Highways Department (RHD)

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Abbreviations and Acronyms

ALCS	Axle Load Control Station
A/C Pay	Account Pay
AE	Assistant Engineer
ANPR	Automatic Number Plate Recognition
AVI	Automatic Vehicle Identification
BDT	Bangladeshi Taka
BIWTA	Bangladesh Inland Water Transport Authority
BLPA	Bangladesh Land Port Authority
BRTA	Bangladesh Road Transport Authority
BSTI	Bangladesh Standard and Testing Institute
BTRC	Bangladesh Telecommunication Regulatory Commission
CCTV	Closed-Circuit Television
CPA	Chittagong Port Authority
ETC	Electronic Toll Collection
GoB	Government of Bangladesh
GVW	Gross Vehicle Weight
HSWIM	High Speed Weigh-in-Motion
IDPS	Intrusion Detection and Prevention Systems
IR	Infrared
ITS	Intelligent Transport System
KGI	Key Goal Indicator
KPI	Key Performance Indicator
LED	Light-Emitting Diode
MPA	Mongla Port Authority
MSWIM	Medium/Moderate Speed Weigh-in-Motion
O&M	Operation and Management
PDU	Power Distribution Units
PTZ	Pan-Tilt-Zoom
RFID	Radio Frequency Identification
RHD	Roads and Highways Department
RHD HQ	Roads and Highways Department Headquarter
ROU	Road Operation Unit
RTHD	Road Transport and Highways Division
SAE	Sub-Assistant Engineer
SDE	Sub-Divisional Engineer
SMS	Short Message Service
SOP	Standard Operating Procedures
SSWIM	Slow Speed Weigh-in-Motion
SWG	Sub-Working Group
TMS	Toll Management System
TOR	Terms of References
TSW	Technical Services Wing
UPS	Uninterruptible Power Supply
VMS	Variable-Message Sign
WIM	Weigh-in-Motion

1 Introduction

Axle Load Control Stations (ALCS) under Roads and Highways Department (RHD) are operated and managed by Operation and Management (O&M) service providers (Contractors) selected through a competitive bidding process. A standard guideline describing the process of operation and management by the O&M contractors is yet to be developed. Currently, the only available option in practice for describing the process is through the bidding documents (the Standard Tender Document for the procurement of Non-Consulting Services (PSN)). However, this document offers a limited scope regarding the detailed operation and management processes of an ALCS, focusing primarily on outlining the responsibilities of the client and the contractors. Moreover, the physical infrastructure and facilities for the operation of ALCS are not uniform over the RHD network. Currently there are 51 ALCSs (please see **Annexure 6**) across the country under RHD either operational or under construction. Several types of facilities among these ALCSs have been identified regarding the weigh-in-motion scale types, availability of service area, fine collection principle etc. Therefore, a comprehensive guideline is essential to thoroughly address the specific operational and management requirements of all ALCS, including detailed performance standards, a clear delineation of roles and expectations for all parties involved, management criteria and others by identifying the current and future challenges. This document, titled the *Supervisory Manual for Axle Load Control Stations* have been prepared to standardize the way of operating the ALCSs through the O&M contractors to clearly delineate the responsibilities of several parties involved, taking into account the current variations and limitations of different ALCSs, as well as the overarching principle of overload control on RHD highway network.

1.1 Objectives

The overall objective of this Manual is to develop a standard method for operation, management and supervision of all ALCSs under RHD. However, the specific objectives are:

i. Categorization of different ALCS under RHD for using this Manual as a common standard document for all the ALCSs.

ii. Define the roles and responsibilities of different parties involved in operation, management, and supervision of ALCSs.

iii. Develop the operation and management process of the supervisory works at the ALCSs.

iv. Outline the management of work reports submitted by the O&M contractors/service providers of the ALCSs.

v. Establish a monitoring and evaluation method of the works by the O&M contractors/service providers of the ALCSs.

1.2 Scope

The Manual is intended to be applied for the operation, management and supervision of the ALCSs currently in operation or under construction at RHD, as well as to ALCS that will be developed in the future. As no unified design standard for ALCS has been established so far, this manual prescribes the standard type of ALCS to be categorized by different RHD projects, how the O&M contractors/service providers will operate and manage the ALCSs, and how RHD will supervise their operation and management of those different ALCSs.

A majority of the ALCSs (28 out of total 51) are under construction by a GoB funded infrastructure development Project titled, "*Installation of Axle Load Control Stations (ALCS) at*

the Source of Freight Transport on Important Highways of Roads and Highways Department" under Technical Services Wing (TSW) of RHD. These ALCSs share the same principle of O&M based on the proposed physical infrastructure and facilities to be provided.

Another technical assistance project funded by Japan International Cooperation Agency (JICA) is also undergoing, titled, "*The Project of Capacity Development of Managing and Controlling Overloaded Vehicles*". The scope of this project is to analyze and develop a standard overload control mechanism in Bangladesh including the review of existing law, standardize the principle of overload control, develop a standard bidding process for O&M contractors, establish centralized monitoring system, and propose relevant enforcement and public awareness system. One of the striking features proposed under this project is that the vehicles found overloaded will be allowed to cross the ALCS only after it pays the fine for the access weight, remove the access weight and the weight limit is within the allowable limitations. The principle behind such proposition is that the overloaded vehicle has to pay the fine for the damage it has already caused to the pavement or bridge structures and no further damage cannot be allowed. Since the majority of ALCSs will follow this proposed principle in the future and address the need for road damage control, this supervisory manual has been primarily prepared on the operational and management process of these ALCSs. However, supplementary notes and relevant descriptions have been added so that this Manual can be applied to other types of ALCSs as well.

As more ALCSs will be developed in the future, it is expected that this Manual will become more versatile through revisions to its contents.

1.3 Related Law and Regulations

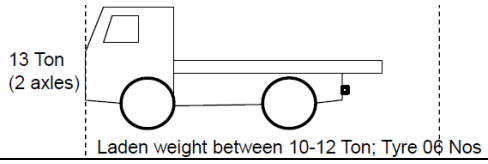
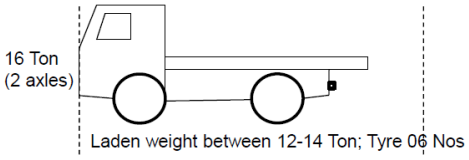
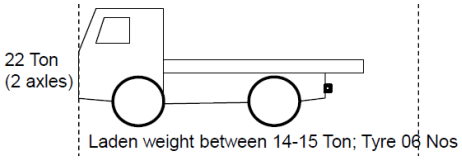
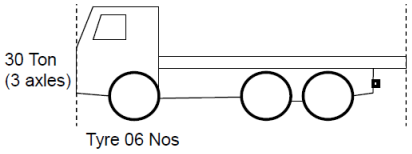
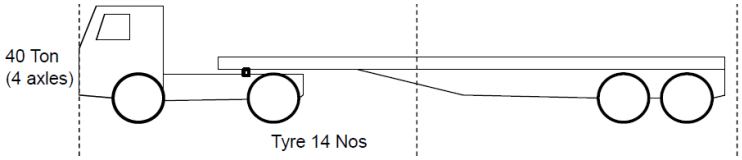
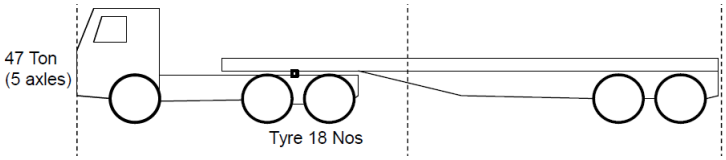
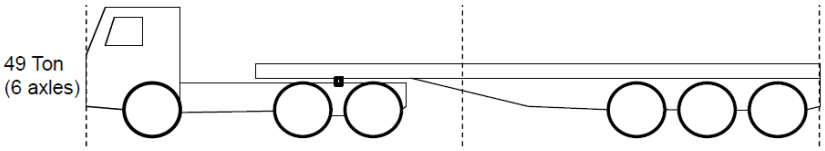
The relevant laws and regulations in Bangladesh to enforce on overloading are as follows, details of which are shown in **Annexure (1)**. This manual prescribes operation and management methods based on these laws and regulations.

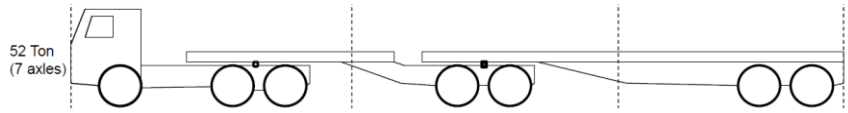
1) Highways Act 2021 (Previous law: Highways Act 1925)
2) Road Transport Act 2018 (Previous law: Motor Vehicles Ordinance, 1983)
3) Bangladesh Road Transport Authority Act 2017 (Previous law: part of old Motor Vehicles Ordinance, 1983)
4) Highway Police Rule, 2009 (as a part of Police Act 1861)
5) Operation Policy on Axle Load Control Station for Motor Vehicles-2012
6) Maximum Permissible Axel and Laden Weight Limit for Motor Vehicles
7) Office orders on Fine and Maximum Permissible Axel and Laden Weight Limit for Motor Vehicles

However, items that are not prescribed by laws and regulations are specified in this Manual as items that should be prescribed by laws and regulations in the future. For better management of different issues related to load limit, overloading policy and fine, parking fees, storage charge, allowable unloading goods & categories, the existing rules and regulations have been reviewed by the JICA Expert Team (JET) and RHD under the Project titled, "*The Project of Capacity Development of Managing and Controlling Overloaded Vehicles*". The proposal prepared for necessary adjustments, as referenced in **Annexure (2)**, is subjected to the approval by appropriate authorities.

1.4 Target Vehicle

This supervisory manual covers all heavy-duty vehicles inspected through the ALCS, operated and managed under RHD, in accordance with the laws and regulations referenced in **Annexure (1)**. The heavy vehicles are categorized and summarized as shown in Figure 1.1 below:

Categories	Axle No. / Wheels No. / Max. allowable weight limit (Ton)	Details
I	2 / 6 / (Laden weight 10-12 tons) / **13**	
II	2 / 6 / (Laden weight 12-14 tons) / **16**	
III	2 / 6 / (Laden weight 14-15 tons) / **22**	
IV	3 / 6+4 =10 / **30**	
V	4 / 10+4 =14 / **40**	
VI	5 / 14+4 =18 / **47**	
VII	6 / 18+4 =22 / **49**	

VIII	7 / 22+4 =26 / **52**	

Source: JICA Expert Team

Figure 1-1 Overview of the Targeted Large Vehicles.

Please note that the current maximum permissible weight limit as shown in Figure 1.1 is applicable for a certain types of axle configurations and for up to 7-axle vehicles only. In reality, the axle configuration varies in terms of number of axles, number of wheels, distance of axles/axle groups, arrangement of axle and others. The review document for existing rules and regulations for overload control in Bangladesh under "The Project of Capacity Development of Managing and Controlling Overloaded Vehicles" has proposed a technical committee to recommend maximum allowable load limits of axle configurations that are not include in Figure 1.1.

1.5 Definition of Terms

Weigh-In-Motion (WIM): The process of estimating the wheel and/or axle loads and gross weight of a moving vehicle, by measurement and analysis of the dynamic vehicle tire forces.

Weigh-In-Motion System (Instrument): A system comprising mounted sensors and electronics, equipped with software, that measures dynamic tire forces and vehicle presence in real-time. It calculates wheel and/or axle loads, gross weight estimates, and other vehicle parameters such as speed, axle spacing, and vehicle classification.

Axle: An axle comprises of two, or more wheel assemblies with centers lying approximately on a common axis orientated transversely to the nominal direction of motion of the vehicle.

Axle Load: The sum of all the wheel loads of an axle of a vehicle.

Axle Load Control Station (ALCS): Axle Load Control Station is a checkpoint along the highway to inspect vehicular weights and safety compliance criteria. Usually, trucks and commercial vehicles are subject to inspection.

ALCS are equipped with truck scales, some of which are weigh-in-motion and permit the trucks to continue moving while being weighed. There are many different scales used, from single axle scales to multi-axle sets. Signal lights indicate if the driver should pull over for additional inspection or if they are allowed to return to the highway.

Laden Weight / Gross Vehicle Weight (GVW): The net weight of a motor vehicle or trailer, together with the actual weight of goods or passengers or both carried by the vehicle or trailer.

High Speed WIM (HSWIM): The weighing of a vehicle in motion in the normal traffic flow, using a system installed directly on/in/under a normal road. High-speed Weigh-in-Motion systems are able to measure speed ranges from 5 km/h to 120 km/h.

Slow Speed WIM (SSWIM): The weighing of a vehicle in motion in a controlled weighing area and under controlled traffic conditions, such as limited vehicle speeds in order to minimize the dynamic effects. The Slow Speed Weigh-in-Motion System has capability to operate between 0 Km/h to 10 Km/h

Overloaded vehicle: A vehicle that is detected by an authorized officer at an Axle Load Control Station as overloaded, either with regard to the permissible maximum axle or axle unit weight or permissible maximum gross vehicle weight

Permissible weight: Maximum weight of the laden vehicle declared permissible by the competent authority of the state in which the vehicle is registered.

Key Performance Indicator (KPI): a specific, measurable, and quantifiable performance metric used to track progress over time toward a particular objective or goal. Checking the achievement of KPIs means understanding progress toward goals. In the work, KPIs can be shared within a team, and organizational activities can be carried out appropriately by numerically understanding the percentage of achievement against goals.

Key Goal Indicators (KGI): are parameters that state how well services or processes achieve the client's (RHD) goals. In this sense, the output of the service provider is differentiated from the outcome obtained by the client.

RHD HQ Dhaka: Head Quarter of RHD, situated in Dhaka.

Service Provider: Company that will assign in ALCS for operation and management.

Intrusion Detection and Prevention Systems (IDPS): Use IDPS to monitor network traffic for suspicious activities and automatically respond to potential threats.

Endpoint Detection and Response (EDR): Implement EDR solutions to continuously monitor endpoints and respond to threats in real-time.

Access Management: Implement role-based access control (RBAC) and the principle of least privilege to ensure users only have access to necessary resources.

2 Types of ALCS under RHD and their Application in this Manual

2.1 Categorization of ALCS under RHD

This manual applies to all the Axle load Control Stations (ALCSs) operated and managed under RHD. The types of ALCS currently in operation and those to be developed in the future at RHD can be categorized based on their proposed operation, management, and available facilities. Specifically, the types of ALCS are determined by the following attributes that characterizes basic functional differences among them:

- Integration of weigh measurement with toll booth,
- Presence of unloading facilities (Service Area),
- Presence of U Turn without Service Area,
- Overload handling process.

Further, a sub-type is applied based on the availability of different types of weight measuring scales.

Based on the functional characteristics, the ALCSs are classified into four (04) major categories. The characteristics of each category is shown in Table-2.1. Figures-2.1 to 2.4 show the typical layout with characteristics of each type in more detail. In preparing this Manual, the primary focus was made on the proposed operation and management method from the design details of the 28 ALCSs under "*Installation of Axle Load Control Stations (ALCS) at the Source of Freight Transport on Important Highways of Roads and Highways Department*" Project and 02 ACLSs under Cross border Project (at Benapole and Ramgarh). The functional characteristics of these thirty (30) ALCSs along with some currently operating ALCSs are similar and classified as Type-I. Type IV is mainly different from Type I with regards to integration of toll both with ALCS and use of weigh scale types. Type II and IV are mainly constructed upstream and downstream of bridges and hence both are integrated with toll booth. However, they differ by other functional characteristics like availability of service area, U-turn facilities and overload handling processes. Type III are constructed on highways and follows unique overload handling process.

Table 2-1 : ALCS Typologies and Overview

ALCS		Characteristics							Overload handling process (unloading & penalty)			Applicable Weigh Station
		WIM				Integrated with Toll Booth	Service Area (Unloading Zone)	U Turn without SA	Forced Unloading	Pay & Go	Time based payment	
		HS	SS	MS	Static							
Type-I	A	√	√	X	X	X	√	X	√	X	X	28 newly developed ALCS, Benapole, Ramgarh, Bathuli
	B	X	√	X	X	X	√	X	√	X	X	Bholaganj, Lamakaji, Jamuna Sar Karkhana, Jaria,Senahat
Type II		X	√	X	√	√	X	√	X	√	X	Charsindur, Meghna Doudkandi, Ghorashal Bridge, Bhairab Bridge
Type III		X	X	√	X	√	X	X	X	X	√	SASEC-II- Islampur
Type IV	A	X	X	X	√	√	√	X	√	X	X	Patuakhali
	B	√	√	X	X	√	√	X	√	X	X	Panguchi Bridge,
	C	X	√	X	X	√	√	X	√	X	X	Raniganj

Static: Static Weigh Scale
SS: Slow Speed Weigh in Motion (less than 10km/h) (located on ALCS)
MS: Medium Speed Weigh in Motion (10-50/60 km/h) (located on the Main Road.)
HS: High Speed Weigh in Motion (over 80 km/h) (located on the Entrance Road)
Source: JICA Expert Team

2.2 Details of Different Types of ALCS under RHD

2.2.1 Details of Type - I:

In this type of ALCS, HSWIM (2) is typically installed 1-3 km in main carriageway ahead of the station, along with vehicle detection system and a display board (3) that shows the load limit and guides vehicles. Guideposts (1) are used to manually direct freight vehicles entering the ALCS, with the assistance of appointed signalmen. Digital display boards displaying load limits (3) are positioned both near the HSWIM (2) and at the booth (5). If the display board indicates that a vehicle is overloaded, it must enter the ALCS for further screening and more accurate weighing through SSWIM (4). If the display board shows that the vehicle is within the load limit, it can continue on the main carriageway without entering the ALCS.

At the SSWIM, if the vehicle is still considered overweight, a penalty must be paid at the booth (5) and the vehicle will be directed to the unloading zone (9) to remove the excess weight, then return to the SSWIM for rechecking. If the vehicle is not deemed overloaded at the booth, it can pass the barrier (6) and merge onto the main road. For vehicle recognition, Type - I of ALCS is equipped with RFID, ANPR cameras, and a manual data input system. To ensure proper operation, this ALCS includes a Management office (7), a Monitoring office (8), and a Warehouse (10).

In some ALCS, such as Benapole and Ramgarh, the HSWIM systems have been installed in the main entrance lane of the ALCS rather than on the main carriageway. The distance between the HSWIM (2) and the booth (5) varies from 200 to 400 meters. Vehicles entering the measuring lane are first weighed using the HSWIM (2). If they are found overloaded, they must proceed to the SSWIM (4) for more accurate weighing. If they are within the weight limit, they can bypass the SSWIM and continue through the side lane to merge onto the main road. Other operational aspects of both types remain similar.

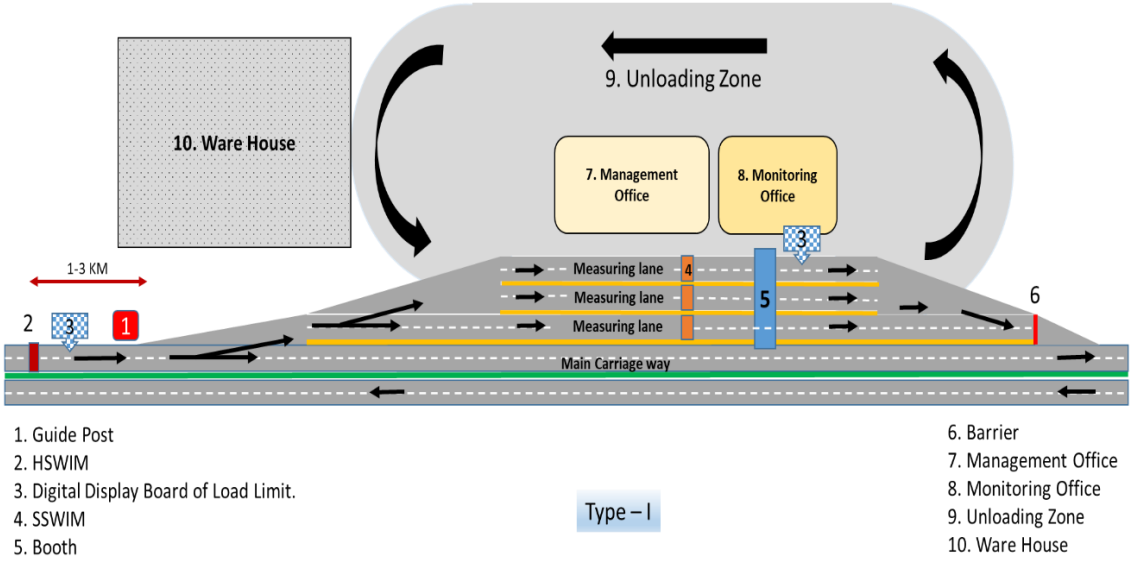


Figure 2-1 : Layout Plan of Type I ALCS

2.2.2 Details of Type - II:

In Type II ALCS, guideposts (1) are available to direct freight vehicles for weighing. Digital display boards showing load limits (4) are positioned near the booth (3). For vehicle recognition, the system is equipped with RFID, ANPR cameras, and a manual data input system. Weigh measurement of freight vehicles is conducted on the main carriageway, integrated with the toll booth (3) during toll collection, using SSWIM (2) and, in some instances, using a static load scale (5). There is no place for unloading excess goods.

If the vehicle is considered overweight at the SSWIM, there are two options available for the

freight vehicles:

1) A penalty must be paid as per the existing rules and regulations (refer to **Annexure (1)**) at the booth (3). After the fine is collected, overloaded vehicles will leave the ALCS through the barrier gate (6).

2) Otherwise, return to the source using a U-turn beside the ALCS.

The entire process is monitored from the management and monitoring room (5).

For vehicle recognition, Type - II of ALCS is equipped with RFID, ANPR cameras, and a manual data input system. To ensure proper operation, the entire process is monitored from the management and monitoring room (5).

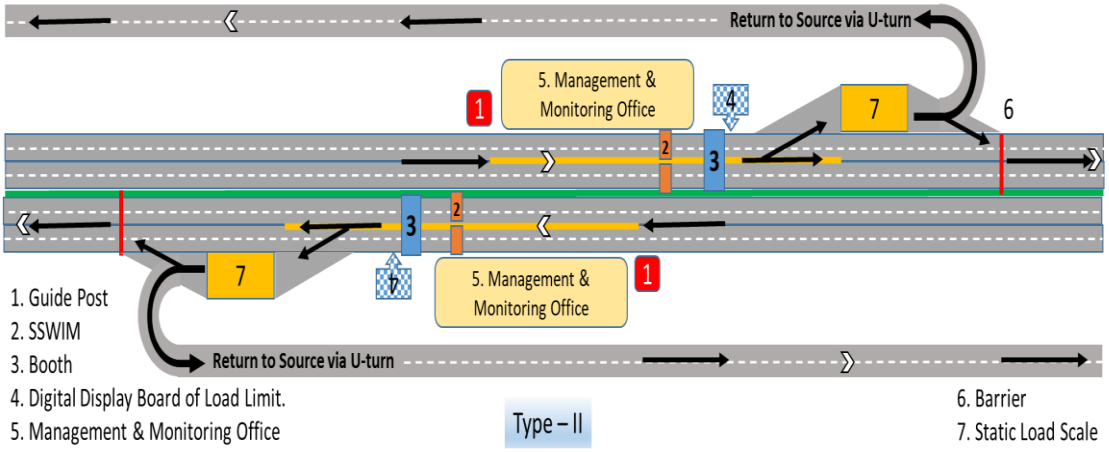


Figure 2-2 : Layout Plan of Type II ALCS

2.2.3 Details of Type – III

In this type, freight vehicles enter the ALCS directly through designated additional lanes on the highway. Digital display boards showing load limits (4) are positioned near the booth (3). Weigh measurement of freight vehicles is conducted on the main carriageway, integrated with the toll booth (3) during toll collection, using MSWIM (2). There is no place for unloading excess goods.

If the vehicle is considered overweight at the MSWIM, the system will capture all pertinent details of the non-compliant vehicle for the imposition of stipulated fines, which can be recovered or paid at banks, courts, etc., at a later date and within a specified timeframe. If the vehicle is not deemed overloaded at the booth, it can pass through the barrier (6). For vehicle recognition, Type III ALCS is equipped with RFID, ANPR cameras, and a manual data input system. To ensure proper operation, this ALCS includes a Management & Monitoring Office (5).

Type-III also covers the operation of similar ALCS for which penalty must be paid as per the existing rules and regulations at the booth.

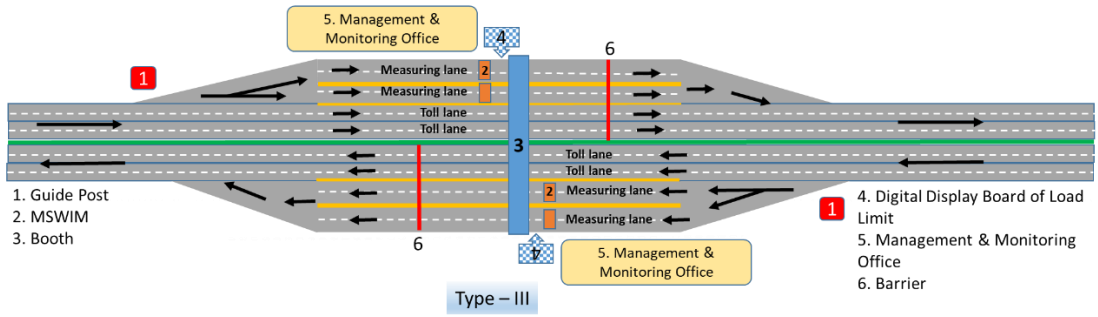


Figure 2-3 : Layout Plan of Type III ALCS

2.2.4 Details of Type – IV

In this type, the weigh measurement of freight vehicles is primarily conducted at the ALCS using SSWIM (2). In certain cases, such as at the Panguchi Bridge ALCS, HSWIM is also used for preliminary weigh measurement. Guideposts (1) are used to manually direct freight vehicles entering the ALCS with the assistance of appointed signalmen. Digital display boards showing load limits (3) are positioned at both the entrance and near the booth (5). In case of availability of HSWIM (2), vehicles entering the measuring lane are first weighed using HSWIM (2). If they are considered overweight, they must proceed to the SSWIM (4) for more accurate weighing. Otherwise, they can pass through the HSWIM/side lane and merge onto the main road. At the SSWIM, if the vehicle is still considered overweight, a penalty must be paid at the toll booth (5) and the vehicle will be directed to the unloading zone (9) to remove the excess weight, then return to the SSWIM for rechecking. If the vehicle is not deemed overloaded at the booth, it can pass the barrier (6) and merge onto the main road.

The toll booth is located both within the ALCS and on the main carriageway, with a designated measuring lane for heavy vehicle weigh measurement and integrated with the toll collection system. For vehicle recognition, Type IV ALCS is equipped with RFID, ANPR cameras, and a manual data input system. The entire process is monitored from the management and monitoring office (7) to ensure proper operation.

The primary difference among Type IV (A), Type IV (B), and Type IV (C) lies in the use of HSWIM (2), SSWIM (4), and static scales for weigh measurement. In Type IV (A), a static scale is used for weight measurement. In Type IV (B), both HSWIM (2) and SSWIM (4) are utilized. For Type IV (C), only SSWIM (4) is used, and the HSWIM (2) function is not present. Other operational aspects of all sub-types remain similar.

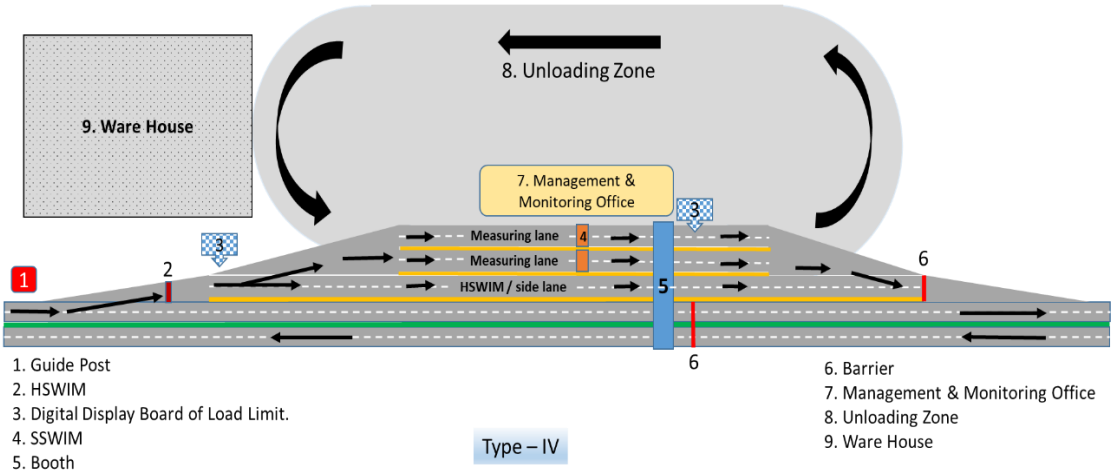


Figure 2-4 Layout Plan of Type IV ALCS

2.3 How to Use the Manual

This Manual specifies the supervisory works to be performed by RHD in all ALCS in Bangladesh for which RHD is responsible for operation and management. In particular, this Manual will cover the following functions regarding ALCS.

1) Measuring operations with WIM.
2) Unloading operations at the designated unloading space.
3) Roles and Responsibility of RHD and Service Provider.
4) Operation and Management of ALCS including work report.
~~5)~~ Monitoring and evaluation of O&M of ALCS.

All these functions are fully/partially relevant to the four categories of ALCS defined in previous sub-sections. While using this Manual, "Type-1" shall be used as the basis as it covers all these functions and majority of the ALCS under RHD is deemed to be of similar type in future. Following sections are prepared in such a way that relevant information on operation, management and supervision of other types can also be found and used in respective cases.

However, in addition to the process described in this Manual, the supervisor of the RHD zonal offices shall be able to stipulate the specific operating procedures for the functional parts could not be covered by this Manual. Any additional process for ALCS operation developed independently shall be approved in advance by the TSW at RHD Headquarters before being used for on-site supervisory work.

Note: *This manual excludes toll collection and operations on toll roads and bridges, as well as measurement operations using static vehicle weighing scales.*

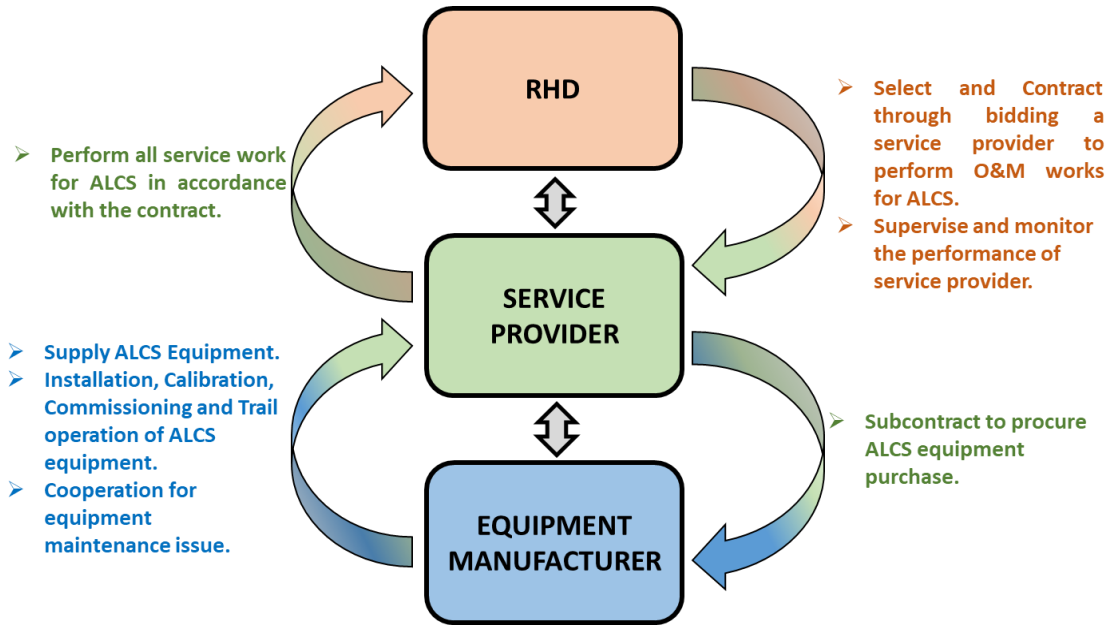
3 Roles and Responsibilities of Relevant Parties

3.1 Overview of Relevant Parties

For overall operation and maintenance of Axle load Control Stations (ALCS), the relevant parties shall be classified as follows:

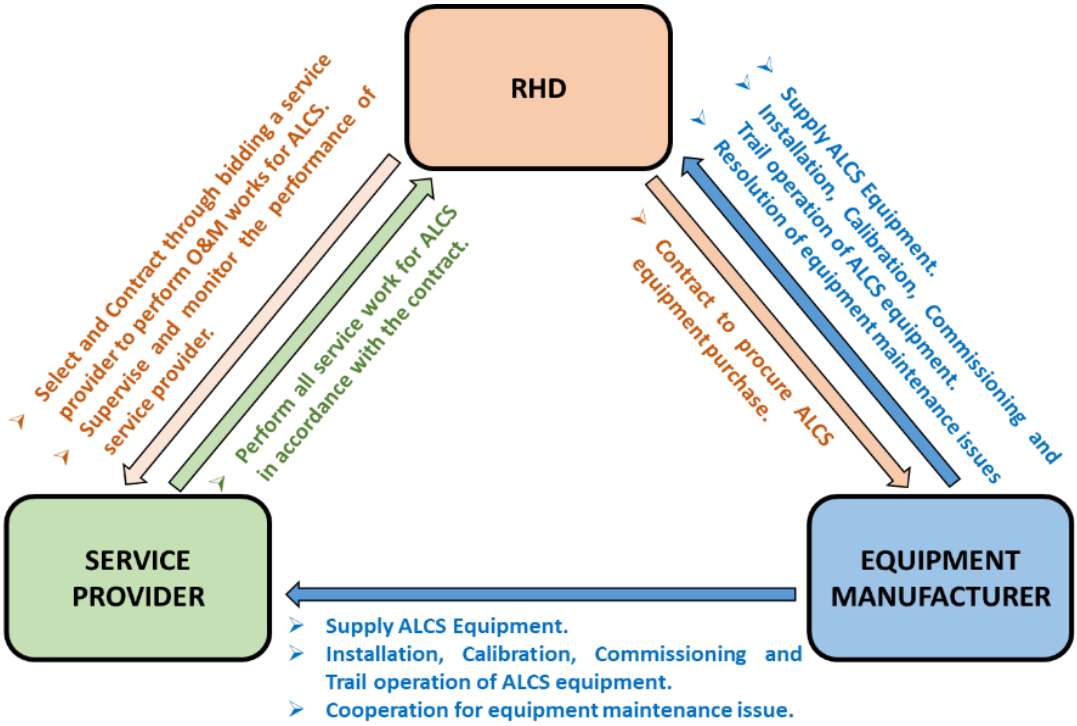
- **Roads and Highways Department (RHD):** shall be the owner of the ALCSs. RHD shall engage the Service Provider for overall operation and maintenance works of ALCS. RHD will supervise the works of ALCS performed by the service provider using the supervisory manual.
- **Service Provider:** appointed by the RHD for overall operation and maintenance works of ALCS.
- **Equipment Manufacturer:** contracted by RHD for installation, calibration, commissioning and trail operation of ALCS equipment.

Figure-3.1 and Figure-3.2 shows the relationship between these agencies involved in the operation and management of ALCS.



Source: JICA Expert Team

Figure 3-1 : Relationship between Related Organizations (Service Provider Contract for Axle Load Equipment Procurement and Maintenance)



Source: JICA Expert Team

Figure 3-2: Relationship between Related Organizations (RHD Contract for Axle Load Equipment Procurement and Maintenance)

3.2 Roles and Responsibilities of RHD

3.2.1 RHD Headquarters (RHD HQ)

Outline of operation and overall supervision at RHD HQ in Dhaka shall be executed through Axle Load Management Sub-Division of RHD.

- The data obtained at each load control station shall be transmitted to the centralized database to be in RHD HQ or zonal office for record and data storage.
- RHD HQ must be able to analyze the collected overloading data in order to consider effective road maintenance measures.
- Sufficient arrangement should be provided by RHD HQ to connect to the number plate related database as example BRTA database.

  Note: Collected data from overloaded vehicles should also include vehicle number plate and ID information, obtained through RFID tags, ANPR cameras & manual input.

3.2.2 RHD Zonal Office

The following are the roles of RHD Zone office.

- Preparation of contract document, Service Level Agreement (SLR), comprehensive list of User Acceptance Tests (UAT), Proof of Concept (POC) and engage the service provider when the service provider contract will be executed through RHD Zone office.
- Overall monitoring of the maintenance and management of the facilities of the axle load control station as per contract documents.
- Decision for any unresolved issues, either technical or otherwise.
- Decision regarding maintenance and management operations in the circumstances of a serious accident, disaster and adverse weather situation including cyclone, heavy rainfall, accidental

fire hazard.

3.2.3 RHD Circle Office

The following are the roles of RHD Circle office.

- Preparation of contract document, Service Level Agreement (SLR), comprehensive list of User Acceptance Tests (UAT), Proof of Concept (POC) and engage the service provider when the service provider contract will be executed through RHD Circle office.
- Discussion with Division office for any unresolved issues, either technical or otherwise and report it to respective Zone office.
- Discussion with the Division office regarding maintenance and management operations in the event of a serious accident or disaster. Report the situation to the respective Zone office for further action and collaborate with the Division office to manage the situation.
- Verify and approve all sort of reports like evaluation report, inspection report, maintenance report etc. prepared by Division office and forward these reports to Zone office.

3.2.4 RHD Division Office

The following are the roles of RHD Division office.

- Assist in the preparation of contract document, Service Level Agreement (SLR), comprehensive list of User Acceptance Tests (UAT), Proof of Concept (POC) and engage the service provider when the service provider contract will be executed through RHD Circle office.
- Arranging meetings with the service provider to discuss technical issues on a regular basis.
- Monitoring of the actual operation and management of the ALCS facilities.
- Inspection and evaluation of a risk assessment and damage report in the circumstances of a serious accident or disaster occurrence and submit detail report to RHD Circle office and provide copy to Zone office, RHD Headquarter.
- During the event of an emergency repair or maintenance works of ALCS equipment's which small scale is, division office can solve the issues with their allowable financial capacity as per contract provision.

3.2.5 RHD Sub-Division Office

The following are the roles of RHD Sub-Division office.

- Supervision of the actual operation and management of the ALCS facilities.
- Conduct a preliminary damage assessment in the event of a serious accident or disaster, take necessary safety measures as much as possible, and inform the RHD Division office immediately.
- During an event of ALCS equipment inspection, maintenance, repair or replacement, officer from Mechanical Wing of respective Division or Sub-Division office should supervise mechanical issues along with the Sub-Divisional Engineer (SDE).
- Properly manage and storage of spare parts and tools for ALCS equipment,
- Repair, maintenance and use of ALCS equipment with prior approval from Division office when needed.
- For any kind of equipment maintenance, repair or replacement issues, an officer like AE, SAE or others shall report to SDE and follow his/her instruction for further needful action.

3.3 Roles and Responsibilities of Service Provider

The responsibilities of the service provider in the service are as follows:

- The service provider shall perform the service and carry out its obligation with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices and employ appropriate technology and safe and effective equipment, machinery, materials and method.
- The service provider shall perform the tasks described in the "Scope of Services" and "Professional Qualifications and Duties" with reasonable care, skill, and diligence and in accordance with sound technical, administrative, and financial standards for the benefit of the Government.
- The service provider shall prioritize the Employer's interests and act in accordance with this contract and its obligations. At all times, the service provider shall support and safeguard the Employer's legitimate interests in all dealings with third parties.
- Service provider shall avoid any benefits from commissions and discounts.
- Service provider should avoid involvement in any kind of business and professional activities that create conflict with the activities under the contract.
- The service provider shall avoid disclosing any proprietary or confidential information relating to the project, the service, the contract and Employer's business operations without employer's consent. Service provider must indemnify the client against any claims, liabilities, losses, damages, or costs related to infringement and plagiarism during the service period.
- The service provider shall indemnify, protect, and defend the client and its employees from any claims, losses, or damages resulting from the service provider's lack of required skill and care, at their own expense.
- Service provider shall keep accurate and systematic account, data and records in respect of the service and oblige to submit the report, document specifications and result as per the contract and "Scope of Work" to the employer.
- Service provider shall obtain the Employer's prior approval regarding making the critical decision such as contract with the nominated bank, employer recruitment and discharge.
- Service provider shall maintain the proprietary right under the contract.
- The service provider shall meet regularly with RHD officials to discuss technical and project management issues.
- The service provider shall provide all data and reports examined with the permission of RHD to other relevant bodies if necessary.
- Ensure overall safety security at ALCS during the whole contract period.
- The service provider shall ensure the access control of administrative server and account server.
- The service provider shall install, operate and maintain the local ALCS database server and ensure real-time integration of data with the central database at RHD Head Quarter.
- In cases separate contracts for equipment are not made, service provider shall be responsible for installation, commission, testing of the ALCS equipment and software. The service provider shall ensure the maintenance of the ALCS equipment, hardware and software as per the Service Level Agreement (SLR) with RHD.
- If the freight vehicle evades the ALCS, separate standard measured such as colleting vehicles information and report to relative authority (BRTA, HP) for further action shall be ensured by the service provider.

3.4 Roles and Responsibilities of Equipment Manufacturer

Whether the equipment are provided by the separate entity or O&M operator, the role and responsibilities are as follows:

- **Installation, Testing & Commissioning:** Responsible for the installation, calibration, commissioning, and trial operation, Proof of Concept (POC) of the ALCS equipment, hardware and software. These tasks shall be performed by an authorized representative of the equipment manufacturer, leading to the full-scale operational stage.
- **Significant Guideline and Documents:** Provide all relevant equipment catalogues, operational manual, warranty documents, technical specifications.
- **Unified Software:** Provide sufficient support to RHD regarding installation & integration of software related to ALCS equipment and operation regarding real time & central data collection system.
- **Maintenance:** Maintenance of the ALCS equipment and software as per the Service level Agreement (SLR) for the stipulated period in the contract.
- **Training:** Assist RHD with ALCS equipment-related training, including the operation and maintenance of both software and hardware as per the contract.
- **Provision:** Provide full assistance/support to RHD in case of any emergency repair/replacement works of ALCS equipment and supply of spare parts during the warranty period.

3.5 Roles and Works of the Newly Established Division and Sub-Division under Technical Service Wing

The operation and management of ALCS have been conducted by the Zone Office at RHD. However, to ensure uniform and appropriate operation and management of the additional ALCS, a new Division and Sub-Division will be established within the Technical Service Wing of the RHD Headquarters to oversee new operations. A summary of ALCS operations and management tasks to be performed by RHD and service providers, including those assigned to the newly established Division and Sub-Division, is shown in Table 3.1. The staff assigned to the newly established Division and Sub-Division are listed in **Annexure (3)**.

Table 3-1 : Comparison of present and future ALCS Operation and Management Organization

Organization	Present	Future
Service Provider	1. Operation and Maintenance 2. Provide Daily, Monthly, Yearly and Completion Report	1. Operation and Maintenance 2. Provide Daily, Monthly, Yearly and Completion Report 3. Provide ALCS Data to Central Database System
Division/ Zone Office Zone Office	1. Procurement of Service Provider, Installation of WIM and facilities as required. 2. Monitoring outsourcing companies Operation and Maintenance activities. 3. Preserve Report related to ALCS	1. Procurement of Service Provider, Installation of WIM and facilities as required. 2. Monitoring outsourcing companies Operation and Maintenance activities. 3. Preserve Report. related to ALCS 4. Viewing and Analysis the report from Service Provider. 5. Provide necessary information to RHD HQ related to ALCS operation, Data Collection 6. Follow standard specification instruction from RHD HQ.
Sub-Division,		1. Planning and arrangement of Training on

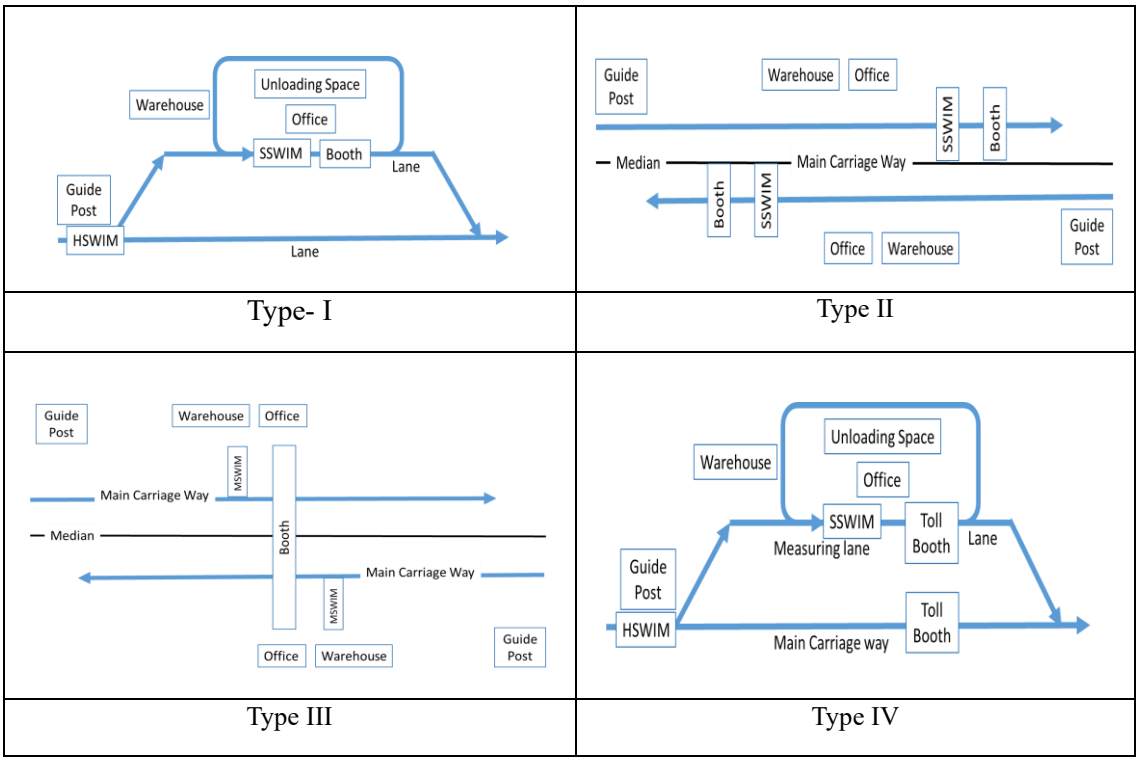
ALCS		Axle Load Control Station (ALCS) maintenance related issues. 2. Visit to RHD ALCS operation offices as per direction of higher authority. 3. Maintain Database System of ALCS 4. Monitoring public relation activities and provide input for updating the Plan.
Division, ALCS		1. Monitoring and Supervision of Axle Load Management Sub-Division activities. 2. Reporting to the Superintending Engineer of Circle office with necessary suggestions, modification, recommendation on ALCS related issues. 3. Prepare compliance report by cross checking standard document based on Regular maintenance inspection, Overloading Axle load data, Enforcement activities, public relation activities.
Circle, ALCS		1. Prepare recommendation for construction, operation and maintenance policy related to ALCS. 2. Prepare proposal for Research and Development for ALCS related activities.
TSW, P&M, MS		1. Recommendation and approval on standardization, updating of manuals, systems related to Axle Load Control Station, ALCS. 2. Recommendation and approval on standardization, updating of manuals, systems related to Axle Load Control Station, ALCS.
Chief Engineer	View Report	1. View Report, Authority, necessary approval

Source: JICA Expert Team

4 Axle Load Control Station Facilities and their Functions

4.1 Overview of Facilities

Based on the available facilities and functions, layouts of the four ALCSs types are represented in Figure 4-1 below.



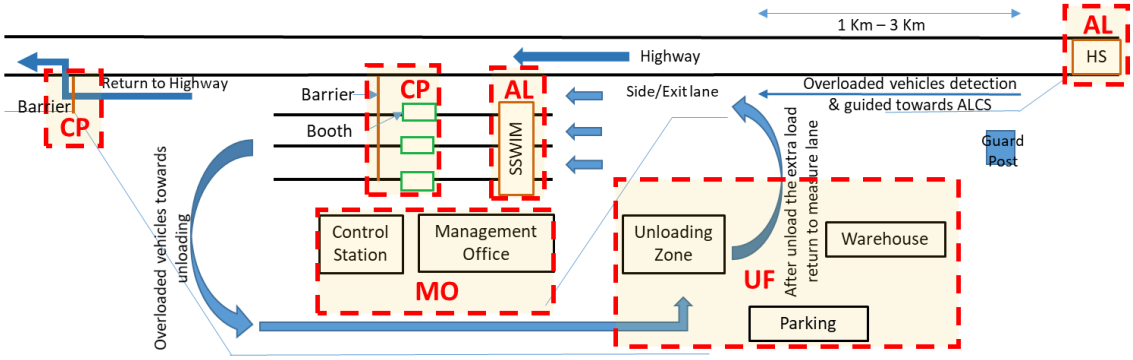
Type- I	Type II
Type III	Type IV

Figure 4-1 : Layout of ALCS

4.2 Details of ALCS Facilities

Considering the function of ALCS, the facilities can be broadly divided into the following four categories and their locations are shown in Figure 4-2.

1) **AL:** Axle Load Measuring Equipment
2) **CP:** Facilities to Control Passing Vehicles
3) **UF:** Unloading Facilities
4) **MO:** Management Office

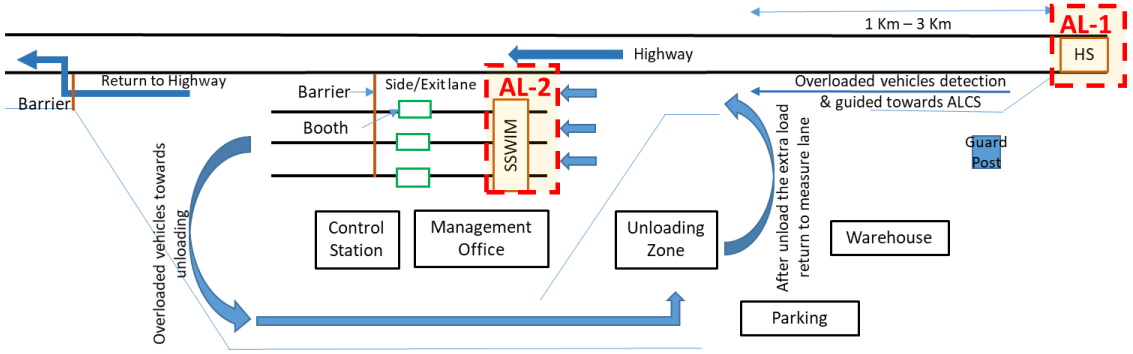


Source: JICA Expert Team

Figure 4-2 : ALCS Facilities Locations

4.2.1 Axle Load Measuring Equipment (AL)

Axle Load Measuring Equipment includes the following two facilities. The locations of ALs are shown in Figure 4-3.



Source: JICA Expert Team

Figure 4-3 : Location of Axle Load Measuring Equipment

- **AL-1:** High Speed Weigh-in-Motion (HSWIM): It shall measure the weight of vehicles while they are in motion at highway speeds. This system typically consists of sensors embedded in the roadway that capture data on the vehicle's weight, speed, and other characteristics without requiring the vehicle to stop. HSWIM systems offer the advantage of efficiently monitoring and managing traffic without disrupting the flow of vehicles.

  It is recommended that the HSWIM lane shall channelize via divider or indication so that vehicle shall pass over the HSWIM properly to get the actual measurement.

- **AL-2:** Slow Speed Weigh-in-Motion (SSWIM): It shall measure the weight of vehicles as they pass over sensors at low speeds, typically in controlled environments like weigh stations or inspection points. The system consists of sensors embedded in the road surface and accompanying equipment to record and analyze the data.

- Medium Speed Weigh-in-Motion: This system is used for measuring the weight of vehicles while they are in motion, typically at speeds ranging from 10 km/h to 50 km/h. Unlike traditional static weighing systems, MSWIM allows for the efficient and accurate measurement of vehicle weights without requiring the vehicle to come to a complete stop.

- Static Scale: In some existing ALCS, if vehicles are found to be overloaded after checking with the SSWIM, a static scale is used for accurate measurement.

Details of Axle Load Measuring Equipment are described Table 4-1.

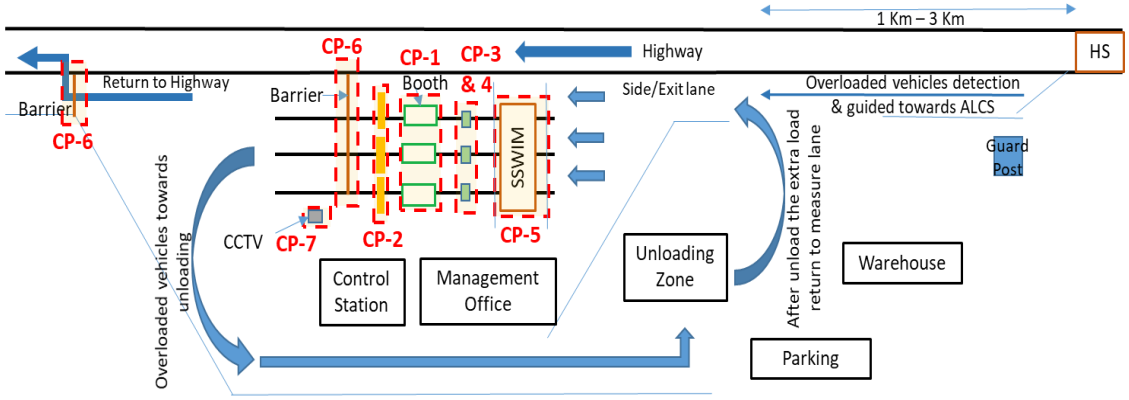
Table 4-1 : Outline of Axle Load Measuring Equipment

Code	Name	Installation Location	Purpose (Use) of Installation	Photo / Figure
AL-1	High Speed Weigh-in-Motion (HSWIM)	Entrance of ALCS/ 1-3km from ALCS on the highway	Screening overloaded vehicle at the main carriageway with operational speed on highway (accuracy +/-10% of Full-Scale range (FSR)).	
AL-2	Slow Speed Weigh -in-Motion (SSWIM)	Installed in front of the toll booth	Measures the axle weight of a freight vehicle at less than 10 km/h speed (accuracy +/-2% of Full-Scale range (FSR)).	
	Medium Speed Weigh-in-Motion	Installed in front of toll booth	Measure the axle weight of freight vehicle travelling from 10-50 km/h speed. (Accuracy +/-5% of Full-Scale range (FSR)).	
	Static Scale	Near SSWIM/MSWIM	Measures the axle weight of a freight vehicle at 0 km/h speed. (Accuracy +/-0.5-1.0 % of Full-Scale range (FSR)).	

Source: JICA Expert Team

4.2.2 Facilities to Control Passing Vehicles (CP)

Facilities to Control Passing Vehicles include the following four facilities are shown in Figure 4-4.



Source: JICA Expert Team

Figure 4-4 : Location of the Facilities to Control Passing Vehicles

- **CP-1: Booth:** Booths are located next to SSWIM. The function of booths is to monitor vehicles, enter data, and collect fines. Controlling of barrier gate and display unit is also managed from booths of ALCS.
- **CP-2.1: Charge Display, LED Display:** For showing the imposed charged due to overloading and axle weight of freight vehicles, LED type display installed in a booth or at the gate where it is visible to drivers.
- **CP-3: Antenna for RFID (RFID):** RFID antenna is installed at approximately 10 meters high to read the vehicle information registered on the RFID tag installed on the license plate.
- **CP-4: ANPR Camera:** ANPR stands for Automatic Number Plate Recognition. An ANPR camera is a specialized camera system used to capture and read vehicle license plates. It is used in the booth for the motor vehicle number plate recognition to collect the information about vehicles connecting to BRTA database and automatic penalty collection (if applicable).
- **CP-5: IR Sensor (Sensor):** IR (Infrared) sensor is installed at both side of a SSWIM. The purpose of installing the IR (Infrared) sensor is to measure vehicle length and number of axles.
- **CP-6: Barrier Gate:** Barrier gate is installed after SSWIM (next to booth) and at the exit of ALCS. The purpose of installing barrier gate is to control the examined vehicles who carry overload. Barrier gates allow vehicles to pass through only while they carry an allowable weight limit.
- **CP-7: CCTV Camera (CCTV):** CCTV is used in several locations at the ALCS to monitor and surveil the entire operation. Various types of CCTV cameras are required, including PTZ (Pan-Tilt-Zoom) cameras, motion detectors, and anti-theft cameras to maintain the surveillance. CCTV also records all activities within its coverage range around the ALCS area.

Details of Facilities to Control Passing Vehicles are described Table 4-2.

Table 4-2 : Outline of the Facilities to Control Passing Vehicles

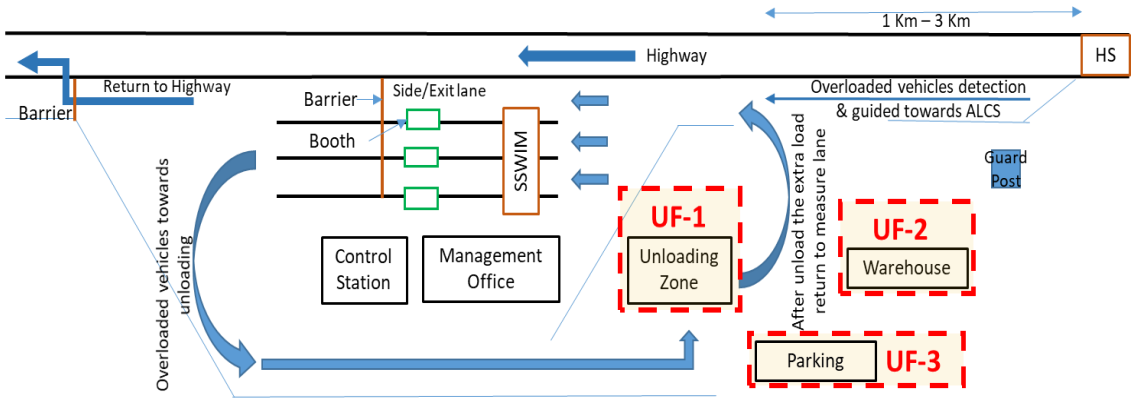
Code	Name	Installation Location	Purpose (Use) of Installation	Photo / Figure
CP-1	Booth	Located next to weigh scale (SSWIM)	Monitor vehicles, enter data, and collect fines.	

CP-2.1	LED Display	Located next to the booth	Display the weigh & fee	
CP-2.2	LED Display	Installed in a booth or at the gate where it is visible to drivers	Display the axle weight of freight vehicles	
CP-3	Antenna for RFID (RFID)	Installed near a booth at a suitable height.	Read the vehicle information registered on the RFID tag installed on the number plate.	
CP-4	ANPR Camera	Installed in booth, from where it can detect number plate	Read the vehicle information via recognition of the motor vehicle's number plate.	
CP-5	IR Sensor (Sensor)	Located around SSWIM	IR sensor measures vehicle length and Number of axles.	
CP-6	Barrier Gate	Located next to the booth and prior to return to the main carriageway.	Installed to stop the vehicle	
CP-7	CCTV Camera (CCTV)	Installed at ALCS	For surveillance	

Source: JICA Expert Team

4.2.3 Unloading Facilities

Unloading Facilities includes the following four facilities are shown in Figure 4-5.



Source: JICA Expert Team

Figure 4-5 : Location of Unloading Facilities

- **UL-1: Unloading Zone:** The unloading area is designated for removing excess weight from freight vehicles. The unloading process shall be managed based on the nature of the goods/products. The unloading of hazardous or perishable goods or products may not be permitted or may require authorization from the appropriate authorities, in accordance with existing rules and regulations as referenced in **Annexure (1)**.
- **UL-2: Temporary Storage Warehouse:** Temporary storage warehouse shall be used to keep the unloading goods/products for a temporary period through a rental process based on space occupied by the goods/products prior to transfer the goods to another vehicle. Occupied space and rental fees amount shall be measured in terms of volume, area or gross weight based on goods/products as per rules & regulation as referenced in **Annexure (1)**. Also, a proposal has been made refer to **Annexure (2)** for use in future after approval.
- **UL-3: Parking Place:** Parking place shall be used to park regular vehicles, overload vehicles who can't unload the goods/products due to their own issues and also the vehicles who face accident or become inoperable within the ALCS area. Occupied parking and rental fees amount shall be measured as per rules & regulation, as referenced in **Annexure (1)**.

For better management of unloading zones, temporary warehouse and parking area, necessary process of fixing the payments, fines, charges, penalties have been reviewed and proposed by JET and RHD, as referenced in **Annexure (2)**.

Details of Unloading Facilities are described Table 4-3.

Table 4-3 : Outline of the Unloading Facilities

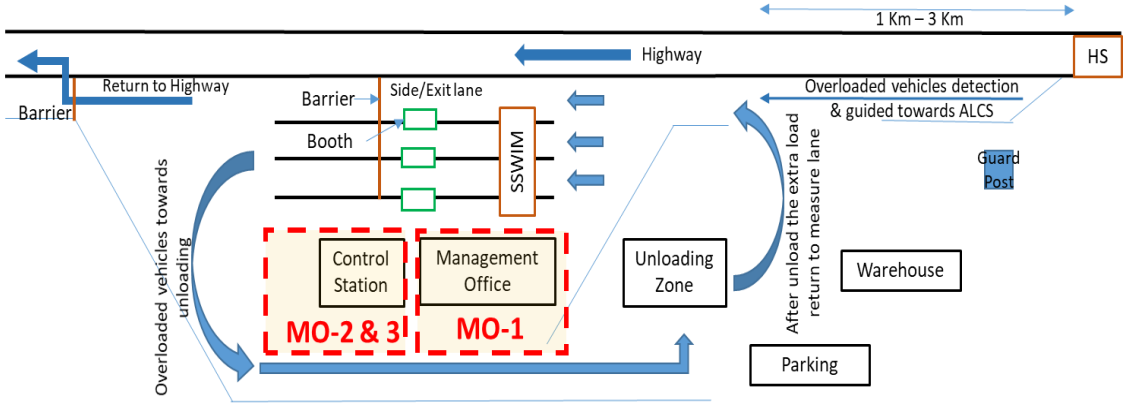
Code	Name	Installation Location	Purpose (Use) of Installation	Photo / Figure
UL-1	Unloading Place	At ALCS	to unload the extra weights carried by the freight vehicles	
UL-2	Temporary Storage Warehouse	Next to the Unloading space	Storing excess goods	

UL-3	Parking Place	Next to the Unloading space	Park vehicles	

Source: JICA Expert Team

4.2.4 Management Office

The Management Office includes the following four facilities are shown in Figure 4-6.



Source: JICA Expert Team

Figure 4-6 : Location of Management Office

- **MO-1: Administrative Room**: Overall administrative activities of an ALCS like rules & regulations imposing within the ALCS area, imposing of penalty, and collected fines management, solving legal dispute issues, responsible staff's activities monitoring etc. all shall be performed form the administrative room.
- **MO-2: Operation Room:** Shall be furnished and stationed with inspection Monitor and personal computers.
- **MO-3: Database Server Room**: Shall be equipped with installed Data Server (Server). In database Server Room all data regarding overloaded vehicles details, equivalent axle load data are stored and shall be analyzed to prevent road damage and improvement of future road design criteria. Maintaining a data server room properly requires a combination of physical security measures, environmental controls, and regular maintenance practices. Here are some key measures to consider in Table 4-4:

Table 4-4 : Key measures to maintain the Server room

Physical & Security	Monitoring, Alerts & Audit	Environmental & Fire Protection	Endpoint Security Measures	Network Security
- Access Control -Surveillance -Alarm	-Device for Network Monitoring -Log Management -Regular Audits	-Fire Suppression Systems. -Smoke Detectors -Sensor for Environmental Monitoring -Temperature: 18-	-Antivirus, Anti-malware & required software -Patch Management & Update.	-Firewalls -Intrusion Detection and Prevention Systems (IDPS) -Network Segmentation

		27°C -Humidity: 12-60% -Airflow -Dust Control	-Endpoint Detection and Response (EDR)	-VPN tunneling
Regular Maintenance	**Power Management**	**Documentation & Procedures**	**Storage & Disaster Recovery (DR) Plan**	**Data Security**
-Inspection. -Cleaning -Software update	-Online/offline UPS -Power Distribution Units (PDUs) -Regular -Testing	-Standard Operating Procedures (SOPs) -Documentation	-Backup Storage Systems -Redundancy -Remote storage for DR	-Data Encryption. -Regular Backups. -Access Management

Source: JICA Expert Team

Details of Management Office are described Table 4-5.

Table 4-5 : Outline of Management Office

Code	Name	Installation Location	Purpose (Use) of Installation	Photo / Figure
MO-1	Management & Administrative Office	Located near to SSWIM	Control the whole operation and management of ALCS	
MO-2	Operation Room installed Monitor and Personal Computer (PC)	Installed at a location where vehicles can be seen in the booth	Monitor license plates, axle weights, input data and collect fines	
MO-3	Database Server Room installed Data Server (Server)	Installed near management building	Searches for information organized in the database and returns the results of the process.	

Source: JICA Expert Team

4.3 Work Flow of ALCS Operations and Person in Charge of Operations

4.3.1. Overall Work Flow at the Typical ALCS

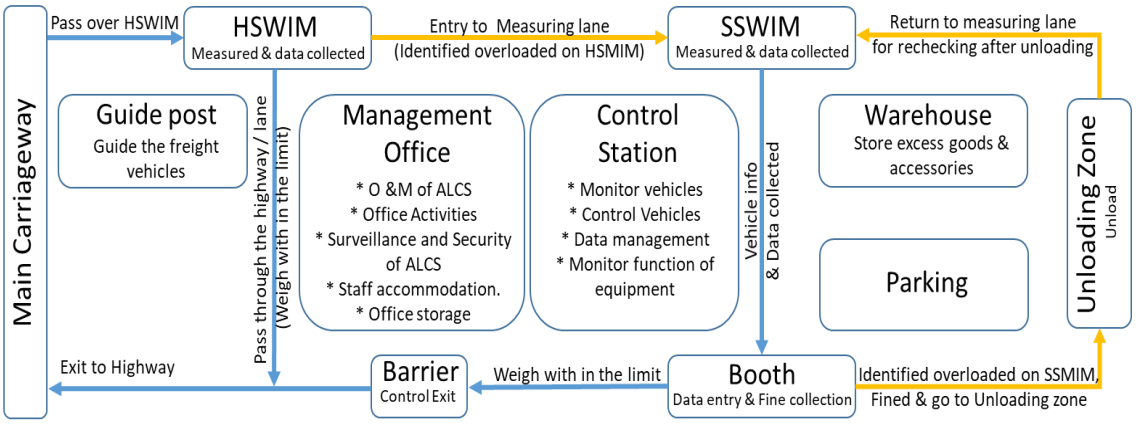
The standard ALCS workflow can be summarized in six steps as follows:

- **Entrance to ALCS**: All loaded freight vehicles should be guided into the ALCS using signage and manual directions.
- **Screening**: For double screening system (Type-I, -II and -IV), vehicles are initially weighed using HSWIM/SSWIM. If found overloaded, they are directed, either by signals or manually, to proceed to SSWIM/static scale for a more precise measurement. Vehicles within the load limit can exit or bypass the ALCS via the designated exit lane or main carriageway. Overloaded vehicles are directed to service area (Type-I and -IV), or directed to the source (Type-II). For Type-III, single screening is done using MSWIM.
- **Weigh Measurement & Data collection**: At the booth, loaded vehicles will be measured through SSWIM/MSWIM and vehicles information collected via ANPR Camera, RFID tag or manually will be stored in the local server.
- **Signaling & Fine Collection**: After measuring the load, if vehicles are identified as overloaded, a fine will be collected at the booth, and they will be signaled to go to the unloading zone to offload the extra goods and return to the measurement lane for reweighing (Type-I and -IV). Due to absence of unloading zone, overloaded vehicles are allowed to leave upon collection of fine in Type-II and upon delivering the receipt of penalty in Type-III.
- **Unloading**: At the unloading zone (Type-I and -IV), overloaded freight vehicles will offload the extra goods and return to the measuring lane for reweighing and paying service fees, including parking and storage charges.
- **Exit from ALCS**: After rechecking through SSWIM/static scale (Type-I and -IV), if the freight vehicle's weight is within the limit, it will be instructed to leave the ALCS. Due to absence of unloading zone, overloaded vehicles are allowed to leave upon collection of fine or directed to source through U-turn facilities in Type-II. There is no restriction to exit in Type-III.

In that series of operations, The RHD shall supervise and monitor the service provider's performance of the tasks associated with the overall operation and management of the ALCS as outlined below:

1) Preparation of a daily work program and monitoring, adherence to this service.
2) Regularly maintain and operate the HSWIM, MSWIM, SSWIM, Static and Portable WIM Pad (if required) units.
3) Directing, with assistance and depending on state of ALCS automation, the vehicles to the ALCS for weighing by axle, group Axles and Gross Vehicle Weights.
4) Ensure traffic management, safety, and security support within the ALCS service area.
5) Fine Collection and transfer to national treasury safely
6) Transmission of the axle load data to the RHD electronically.
7) Development of payment option for fine collection of overloading vehicles.
8) Analysis of the axle-load data collected.
9) Regular Calibration of the weighing scales after every six (6) months or whenever repairs are carried out/becomes necessary, whichever occurs first. This shall be done by service providers and approved by the BSTI. Certificate of Calibration shall be submitted to the RHD and hanged at the toll booths in a visible location for drivers after every calibration exercise.
10) Compilation of analyzed data and submission of a summarized daily, monthly, and annual report to the RHD.
11) Advising RHD regularly on problems arising during the carrying out of the contract.
12) Ensure data storage and remote backup if any disaster or accident occurs.
13) Organizing for regular meetings in consultation with the RHD with stakeholders such as drivers, transport agencies, cargo owners and cargo generation points to disseminate information about overloading. and
14) Coordination with third parties, e.g., Public Utility Authorities, Local/Highway Police, BLPA, BRTA & Local Administrative offices etc.

The overall work flow of Type I ALCS operation is shown in Figure-4.7.



Source: JICA Expert Team

Figure 4-7 : Work flow of Type I ALCS operation

4.3.2. Data and Money Flow in the ALCS

The detailed workflow in a standard ALCS is described below for

1) Money Flow,
2) Printed Data Flow,
3) Data Access through PC/Mobile, and
4) Data Access through Mobile SMS

4.3.2.1. Money Flow

1) Service provider deposits the daily collected cash amount to its bank account (private).
2) After a certain period, service provider issue and submit a A/C pay cheque mentioning cumulative amount of that period to Executive Engineer, Division, RHD.
3) A/C pay cheque is deposited to Government account through a challan by Executive Engineer's Office, Division, RHD.
4) Service provider submit monthly invoice for service fee to Executive Engineer of Division, RHD. In each monthly invoice, 10% is deducted as retention money, which will be paid after 12-month interval against bank guarantee.

4.3.2.2. Printed Data Flow

1) Service provider submits a printed copy of the monthly-summarized report, directed to the Executive Engineer (road division) and a copy of the report is sent to the Sub Divisional Engineer (road sub-division) and Sub Assistant Engineer (road sub-division). The printed copy includes two monthly report submission applications, Daily penalty amount, pay order, summarized monthly report, detailed monthly report, summarized monthly report, detailed monthly report, summarized monthly report, Detailed monthly report. Samples are given in **Annexure (5)**
2) After receiving the documents from the service provider, the received documents are numbered and logged in a logbook manually for record-keeping.
3) The Sub-Divisional Engineer (road sub-division) prepares a monthly summarized report mentioning the total fee collected at weigh station. These documents are then sent to Executive Engineer of road division office. A copy is sent to the Superintending Engineer (road circle) and Sub Assistant Engineer (road sub-division).

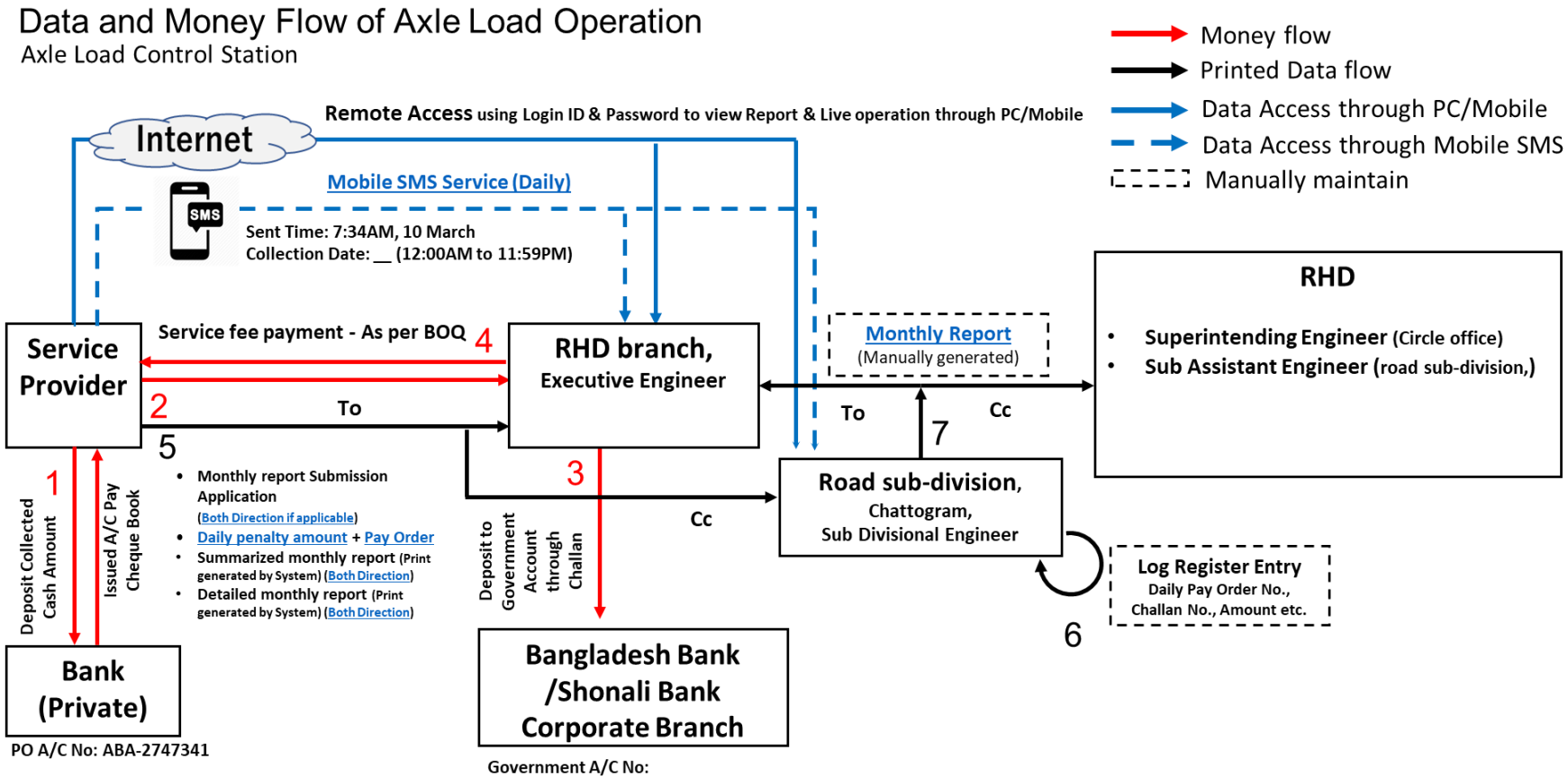
4.3.2.3. Data Access through PC/ Mobile

1) Additional Chief Engineer of Zone office and Executive Engineer of Division office can remotely access to ALCS data using Login Id and Password to view report and live operation through PC/mobile.

4.3.2.4. Data Access through Mobile SMS

1) Service provider sends a summarized daily penalty collection report by a mobile SMS to the Executive Engineer (road division) and Sub Divisional Engineer (road sub-division).

The entire "Data and Money Flow in the ALCS" is shown in Figure-4.8.



Note: - Money deposit up to Government Account from the collection day, the whole process need 4 to 5 working days.

- 1,2,3,4 No. is mentioning here as total money flow process from cash collection up to service provider payment.

- 5, 6 & 7 No. is mentioning here as printed data flow process up to monthly report preparation and submission from RHD branch office.

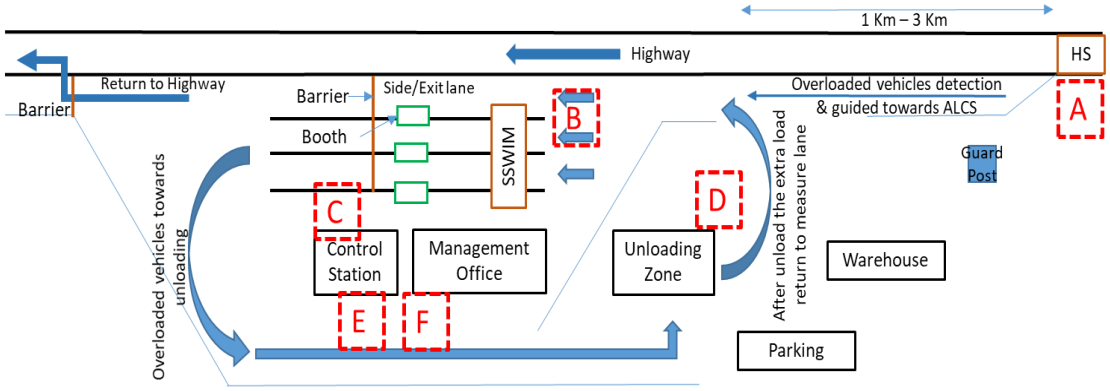
Source: JICA Expert Team

Figure 4-8 : Data and Money Flow for ALCS

5 Operation and Management Procedures of Supervisory Works

5.1 Overview of the Operation and Management Works at ALCS

The flow of each step, from the vehicle entering the ALCS to measuring the axle load at each WIM, and finally passing through the booth for all functional areas of an ALCS, is shown and outlined in the following sections. The workflow of all those steps is found in Type-I ALCS as shown in Figure-5.1.



Source: JICA Expert Team

Figure 5-1 : The overall workflow for an ALCS classified as Type I

The operational and administrative procedures for the supervision of each step [(A) through (F) as in Figure 5-1] in the ALCSs are described below.

(A) Guide Freight Vehicles on Main Road into ALCS

1) At the entrance of the ALCS, targeted vehicles should be guided via signage and manually to the ALCS through the channelized lane where the HSWIM is installed. If necessary, dividers should be used in the lane to ensure vehicles pass properly over the HSWIM.
2) Target vehicle for axle load measurement should be all types of freight vehicles as per the Policy of Axle Load Control Station for Motor Vehicle-2012.
3) As for international cargo, all incoming cargo to Bangladesh territory will be transshipped to the freight vehicle in Bangladesh at the border. Hence there is no possibility of driving other countries' vehicles in Bangladesh.

(B) Measurement Works

1) There should be two step axle load measurement in a load control station. The two steps are composed of HSWIM/SSWIM first, then SSWIM/static scale in the second (Type-I and -IV). One step measurement is done in Type-II and Type-III as described before.
2) The objective of HSWIM is to screen the vehicles that are assumed overloaded. (Speed limit of HSWIM can be varied from (5 – 120) km/h based on the manufacturer recommendation).
3) The objective of MSWIM (in Type-III ALCS) is to screen the vehicles efficiently by optimizing flow and accuracy. (Speed limit of MSWIM can be varied from (10 – 50) km/h based on the manufacturer recommendation).
4) The objective of SSWIM is to measure the exact axle load. (Speed limit of the SSWIM is 10 km/h or less.)
5) The objective of static scale is to measure the exact axle load. (No Speed)

6) During screening, if a vehicle is determined to be overloaded based on the HSWIM/SSWIM measurement, it must proceed to the SSWIM/static scale for further weighing and confirmation. If the HSWIM/SSWIM data indicates that the vehicle is not overloaded, it will return to the main carriageway via the side or exit lane.

7) During weigh measurement if a vehicle is determined to be overloaded based on the SSWIM/static scale measurement results, a fine will be imposed in accordance with the regulations and need to go to the unloading zone for unload the extra weigh & return to measuring lane for re checking (Type-I and -IV). In Type-II ALCS overloaded vehicles can leave the ALCS area upon payment of penalty or returned to the destination. Type-IV ALCS do not restrict the overloaded vehicle but allows the vehicle to leave ALCS area upon delivering the receipt of penalty.

(C) Fines Collection Works

1) Fines are collected by the operator at load control station and deposited into the treasury account through prescribed procedures refer to 5.4.

(D) Unloading Woks

1) In principle, vehicles should not be allowed to leave the axle load control station in an overloaded condition. (There is a special clause for overloaded transport in chapter 6.)

2) As a general rule, overloaded vehicles are required to unload excess goods at a designated unloading space and transfer the goods to another vehicle, following existing overload rules and regulations refer to **Annexure (1)**.

3) The driver of an overloaded vehicle cannot leave the ALCS until the fine has been paid as per the existing rules & regulation. Also, necessary measure should be taken to deal with those who are unable to pay their fines as per the existing rules & regulation mentioned. For better management of different issues such as load limit, overloading policy and fine, parking fees, storage charge, allowable unloading goods & categories, the existing rules and regulations have been reviewed by JET and RHD. A proposal has been prepared, as referenced in **Annexure (2)**, for adjustment of payments, penalties, charges, and fees related to these issues.

4) The additional vehicle meant for loading the extra load from the overloaded vehicle when approaching the HSWIM, will be classified as not overloaded and ideally the gates will open for it to proceed without necessarily going through the SSWIM. The operation staff need to give clear directions to the driver whose vehicle is found to be overloaded prior to bringing the additional vehicle to carry the extra load to avoid confusion.

5) If required, hand over the driver and associate to the Highway Police or nearest police station along with the vehicle for further legal action.

(E) Collection and Submission of Axle Load Measured Data by Service Providers

- **Data Collection**: ALCS data, including axle load, gross vehicle weight, enforcement actions, freight vehicles, time, location, and operator details, is stored locally and transmitted to the RHD HQ centralized server daily.

- **Report**: The service provider will deliver a daily report via SMS and email to the Executive Engineer and Sub-Divisional Engineer of the RHD division office by 8:00 a.m. on the next day. This report includes daily statements, fine collection summaries, and summaries of weighed and overloaded vehicles. A monthly report with all collected axle load measurement data will also be provided.

(F) Storage and Analysis of Axle Load Measurement Data in RHD HQ

1) **Daily Data Transfers:** Data received from ALCS, including axle load, gross vehicle weight, enforcement actions, freight vehicles, time, location, and operator details, is transferred to the

RHD HQ data server in real-time and on a daily basis

2) **Overload Monthly Monitoring Report (OMMR):** Shared monthly, the OMMR includes general information, traffic data, overloaded vehicle data, axle load measurements, fines, and comments from the EE, deposit records, KPI-related data, and work records.
3) **OMMR Components:** The report consists of automatically generated tables and figures based on data from the RHD HQ database and manual processes handled by the Executive Engineer (EE) of the Division Office. The EE compares the service provider's report with data-generated tables, inputs comments and countermeasures if discrepancies arise, and attaches the shift work record provided by the ALCS service provider.
4) **Purpose of Data Collection & Analysis at HQ:** Data is used for OMMR preparation, freight vehicle analysis, pavement damage analysis, enhanced utilization of results, assessing overloaded vehicle management effectiveness, and evaluating the cost-effectiveness of overloaded vehicle control measures.
5) **Data Access:** The OMMR will be stored at RHD HQ, and authorized personnel can access the data from the server.

5.2 Guide Freight Vehicles on Main Road into ALCS

5.2.1 Procedures for guiding freight vehicles on main roads to ALCS

The work of guiding freight vehicles on main road into ALCS includes the following:

1) At the national highway, a signboard should be installed at an appropriate location at a distance 100m, 500m, and1km approaching the axle load control station. The contents of the signboard should show the load control station location and all freight vehicle should enter the station.
2) All the freight vehicles from the main road of the national highway shall be guided to the axle load control station by a guide staff holding a large, conspicuous colored flag.
3) A CCTV camera should be installed at the entrance to the load control station for surveillance and recording. This allows the station operator to identify any freight vehicles that should have entered but did not.

5.3 Measurement Works

5.3.1 Overview of Measuring Vehicle Axle Load

Currently, there are four types of equipment used to measure vehicle's axle load at different types of ALCS.

1) High-Speed Weigh in Motion (HSWIM)
2) Slow-Speed Weigh in Motion (SSWIM)
3) Medium-Speed Weigh in Motion (MSWIM)
4) Static Scale

The following is a description of the roles of these four axle load measuring equipment and the measurement procedure.

5.3.2 Measurement at High-Speed Weigh in Motion (HSWIM)

Method of measurement

1) The HSWIM shall be used by all vehicles entering the load control station.
2) The HSWIM shall be capable of identifying vehicles that are not overloaded based on the policy guideline.
3) After passing the HSWIM, the system shall be capable of indicating to the driver which lane (with or without SSWIM) the vehicle will proceed to.
4) When a truck passes through HSWIM, it will detect if the vehicle is overloaded. During this process, the Automatic Vehicle Identification (AVI) system will collect the vehicle's information. If the vehicle is found to be overloaded, the Variable-Message Sign (VMS) will signal the driver to proceed to the SSWIM lane for further weight measurement.
5) Also, the operator who monitors from the control station will be notified.
6) ANPR will take photos and RFID Antenna will read the vehicle details. Both will be installed at HSWIM location.
7) If the weight of the vehicle will within the allowable limit, AVI & VMS will show the message to driver for going through the highway.

Measurement results

1) The measurement results from the HSWIM shall be linked with the information of the measured vehicle, received from the RFID tag and stored as a single data set. (In case, RFID tag information means vehicle number plate).

2) The measurement results of the HSWIM shall consist of at least the following information/data mentioned in the table 5.1

Table 5-1 : Measurement result of HSWIM

ID			Date				Vehicle's info			Speed	Load per Axle	Gross Wt	Result
							RFID & ANPR						
							Vehicle Number	Photo					
Station	Direction	Lane	Y	M	D	T		F	R				
BNP	UP	1	2023	07	07	8.00	KA-00-1250	-	-	0.3 km/h	1stAxle,3ton 2ndAxle,9 ton 3rd Axle,8 ton	Total, 20 ton	OK

3) The data set of HSWIM measurement results shall be recorded for a certain period of time and shall be available for cross-checking on a sample basis with the SSWIM measurement results by the operation staff in charge and RHD personnel in Dhaka.

Post-measurement processing

1) There is a barrier at the entrance of the lane without SSWIM, and it should only be opened when a vehicle is found "obviously NOT overloaded" in HSWIM. (Lane barrier is normally closed. RFID tag readers must be installed before the barrier, and the lane barrier control software must be linked to the dataset of HSWIM measurement results, so that the lane barrier will open only when a vehicle that can pass through the lane without SSWIM approaches.

2) Identification of the vehicle that is "obviously NOT overloaded" should be capable of setting as modifiable parameter taking effective operation into account in the future. (E.g., each axle load can be set as 80% of the regulated load as a default threshold, then it can be reviewed and modified to the suitable threshold during the operation. This review and modification should also consider measurement errors.)

Location of Measuring Equipment and Methods for their Monitoring

1) Ensure the HSWIM installation is at an appropriate location, ideally 1-3 km before the ALCS. Due to site conditions, the position and distance may vary. For 28 ALCS (Type 1) under construction, the HSWIM is proposed to install 1-3 km prior to ALCS. At Benapole and Ramgarh, the HSWIM are installed with dedicated lane within 200-480 meters prior to ALCS.

2) HSWIM installed on the main carriageway will measure the axle load as vehicles pass over it, provided they remain within the designated speed limit. Value of the load can be monitored from the booth and also will shoe on the display board.

3) Monitor the speed of vehicles passing over the HSWIM to ensure compliance with the speed limit. Ensure that all axles pass correctly over the HSWIM by properly channeling heavy vehicles for accurate measurement

Maintenance of Measuring Equipment

1) Monitor the Bar sensor of HSWIM is properly and regularly maintained by the service provider and make sure routine calibration and maintenance are conducted.

2) Supervise the VMS (Variable Message Sign) and manual guiding system to SSWIM, and

3) Supervise and monitor that service provider provides uninterrupted power supply for the HSWIM system.

5.3.3 Measurement at Slow-Speed Weigh in Motion (SSWIM)

Method of measurement

1) The vehicles to be measured at SSWIM shall slow down and the measurement of each axle load shall be made within the allowable speed of the equipment. (A hump should be installed before the SSWIM equipment, and the allowable speed shall be clearly indicated on the sign.)
2) The measurement results of the SSWIM shall consist of at least the following information/data mentioned in the table 5.2

Table 5-2 : Measurement result of SSWIM

ID			**Date**				**Vehicle's info**			**Speed**	**Load per Axle**	**Gross Wt**	**Result**	**Fine**		
							RFID & ANPR									
							Vehicle Number	**Photo**						**Amount**	**Status**	**Method**
Station	way	Lane	Y	M	D	T		**F**	**R**							
BNP	UP	1	2023	07	07	8.00	KA-00-1250	-	-	0.3 km/h	1stAxle ,3ton 2ndAxle ,9 ton 3rd Axle,8 ton	Total, 20 ton	OK	-	-	-

Measurement results

1) The measurement result shall be displayed to the driver of the vehicle clearly on an outdoor display to be located at an appropriate position. The same result should also be able to be printed out.

Post-measurement processing

1) The vehicle whose measured axle loads of SSWIM are within the allowable limit should be able to return to the main road.
2) The vehicle whose measured axle loads of SSWIM are judged as overloaded shall pay the fine at the booth.
3) The amount of the penalty for carrying overload should be calculated based on the distance of freight vehicle's origin to the ALCS.
4) After paying the fine, the overloaded freight vehicle must go to the unloading space guided by the operation staff.
5) No vehicle with overload shall be allowed to leave the ALCS without unloading.
6) The operation staff should guide the overloaded vehicle to a suitable location without obstructing the smooth movement of other vehicles.
7) Overloaded freight vehicles should be discouraged from storing extra goods at the unloading space. If storage of extra goods and vehicles is necessary, parking fee and storage charges will be calculated based on existing overload rules and regulations refer to **Annexure (1)**. For better management a proposal for adjusting fines and fees in the future has been prepared and is referenced in **Annexure (2)**, waiting for the approval.
8) In case of shifting extra goods from unloading zone, the driver or the associates shall arrange another freight vehicle by themselves to take the extra load.
9) The axle load of the overloaded vehicle at SSWIM shall be checked again at the SSWIM after unloading. After paying the parking fee and storage charges such a vehicle shall only be allowed to return to the main highway only if the measured result is within the allowable axle load limits.
10) The axle load of the freight vehicle to carry the unloaded freight shall also be checked. Such a vehicle shall only be allowed to go to the main highway if the measured result is within the allowable axle load limits.
11) If the driver has no money for paying penalty, the vehicle will be in the parking lot and necessary measure should be taken by the authority as per the existing overload rules and regulations, referenced in **Annexure (1)**.

Location of Measuring Equipment and Methods for their Monitoring

1) Ensure the SSWIM installation is at an appropriate location near and prior to the booth.
2) The SSWIM installed on the measure lane at ALCS will measure the axle load as vehicles pass over it, provided they remain within the designated speed limit.
3) Supervise and monitor in the weighing area the velocity and transverse movement of the passing vehicles are well controlled by the Service Provider in the weighing area, and tire impact forces are as close as possible to the load cell.
4) Ensure that the vehicles passing through SSWIM must carry the allowable weight limit and Overloaded vehicles must unload the extra weight and pay the fine if overloaded.

Maintenance of Measuring Equipment

RHD shall supervise and monitor the following activities for SSWIM operation and maintenance at ALCS:

1) Monitor the load cells of SSWIM properly maintain by the Service Provider regularly and make sure routine calibration and maintenance are conducted.
2) Supervise the VMS (Variable Message Sign) and manual guiding system.

3) Monitor & maintain the data collection system for SSWIM.
4) Supervise and monitor that service providers provide uninterrupted power supply for SSWIM system.

5.3.4 Measurement at Medium-Speed Weigh in Motion (MSWIM)

RHD shall supervise and monitor the following activities for MSWIM operation and maintenance at ALCS:

1) The MSWIM system shall be able to capture number of axles, axle spacing, and number of wheels, gross weight, axle weight, axle speed, average speed, gross weight, and height of each passing vehicle and provide data of every vehicle from the weight indicator to the PC for further auditing and analysis.
2) The Axle and gross vehicle weight of vehicles approaching the control booth shall be automatically detected. The weight details shall be maintained at a separate dedicated server at ROU to generate and maintain periodic reports.
3) If the vehicle is found to be overloaded based on GVW classification, the weight information shall be displayed as "Overweight Warning" and appropriate tickets containing applicable penalties shall be generated automatically.
4) The MSWIM system should not be dependent on a Toll Management System (TMS) and should generate a separate report independently and maintain the vehicle data sequence queue while storing information using unique ID and date time stamp. Class wise vehicles, overweight limit and charges should be configurable.
5) In case of overweight vehicles, this application also should have provision to configure vehicle overweight limit and charges based upon various vehicle classes, an automatic calculation for overweight charges. Same data should be stored in Database for reporting and record purposes. The application should maintain a unique transaction ID for each entry. The application should maintain the vehicle's sequence while displaying the information. An overweight charge slip should be generated and printed for the driver's reference.

5.3.5 Measurement at Static Scale

When the highest level of precision for weighing and solving the dispute for legal enforcement application is required then using Static Scale comes first. If an ALCS has the facility of static scale for load measurement, then the service provider shall carry out the following tasks to the Operation and Maintenance of Static Scale.

1) As the static scale shall be used randomly not in a regular manner, it must be maintained in such a way that it can be used without any trouble while required.
2) Overloaded vehicles shall be directed to the static weighbridge for weighing by axle, group axle and gross vehicle weight, with the assistance of the police and according to the automation status.
3) Ensure measuring freight vehicle position is in right alignment of the static scale.

5.3.6 Measurement at Portable WIM Pad

In instances where law enforcement needs to conduct random weight checks on freight vehicles at roadside or when the SSWIM system in ALCS is malfunctioning but weight measurement is essential to prevent ALCS disruptions, a Portable WIM pad must be employed. If an ALCS is equipped with a Portable WIM pad for weight measurement, the service provider is responsible for the operation and maintenance of this equipment.

1) As the Portable WIM pad shall be used randomly not in a regular manner, it must be maintained in such a way that it can be used without any trouble while required.
2) Overloaded vehicles shall be directed to the pass over the Portable WIM pad at the designated lane for weighing by axle, group axle and gross vehicle weight, with the assistance of the Staff, police and according to the automation.

5.4 Fines Collection Works

5.4.1 Overview of the Fine Payment and Collection Works

5.4.1.1 Obligation to Pay Fines for Overloaded Vehicles

- The vehicle driver or associates shall be obligated to pay the fine described in the axle load measurement result of SSWIM if the vehicle is judged as overloaded. The amount of the penalty for carrying overload should be as per the existing Rules and regulations mentioned in **Annexure (1)**.
- No vehicle with overload shall be allowed to leave the ALCS without paying the fine & unloading. The measurement result of axle loads shall not only be displayed to the driver but also shared with the related operation staff.
- The collection amount of fine/penalty shall be as per the regulation/guideline (RHD will make further considerations internally to ascertain which regulations are to guide imposition of fines as well as punishment of the defaulting drivers by referring to the police regulations, the axle load control Policy and the Bangladesh Laws refer to **Annexure (1)**.
- The fine shall be collected at the booth beside the lane after the driver confirms the SSWIM measurement result and before entering the unloading area. However, if the payment cannot be made immediately, the driver or associates shall come to the same booth beside the lane again to pay after parking the vehicle at the unloading area.

5.4.1.2 Method of Payment of Fines

1) If the driver or associates of the overloaded vehicle is not in a position to pay the fine, then in such a case that the driver and associates will need to wait until they get the money to settle the penalty. (RHD will make further considerations internally to ascertain which regulations are to guide imposition of fines as well as punishment of the defaulting drivers by referring to the police regulations, the Highway Policy and by the Bangladesh Laws.)
2) The payment method of the fine shall be Bangladesh Taka cash basically.
3) The status of penalty collection, along with the results of SSWIM measurements, shall be available for monitoring in the control room of the same load control station and the RHD Dhaka.
4) The records of penalty collection shall be cross-checked with the records of SSWIM by the staff in charge of operation, and a daily collection report (measurement records and details of fine collected) shall be compiled, and cash shall be transferred to a bank to the designated account of RHD daily. At the same time, a pay order to the national treasury shall be prepared and reported.

5.4.1.3 Method of Storage and Remittance of Fines Collected

1) The amount of fine collected shall be kept separate from other cash handled at the load control station.
2) The person in charge of operations shall verify the record of collected fine as cash with the actual amount collected and immediately report any discrepancy to the Chief Accountant of

RHD Dhaka to investigate the cause.

5.4.2 Collection of fines at booths

5.4.1.4 Imposition of a fine

The method of imposing the surcharge is as follows:

1) Collection method of fine is cash basis basically.
2) It's recommended that handling of penalties is done at the booth located near the SSWIM.
3) The policy regulating imposition of fine on overloaded freight at SSWIM will be checked and Confirmed by RHD. (e.g., the freight vehicle that is found to be overloaded at SSWIM and unloaded at the unloaded area would be imposed or not.)

5.4.1.5 Process for Collecting Fines

The process for collecting fines is as follows:

1) After confirming the weight of the vehicle at SSWIM which will be installed 100m from control station, the LED display located in front of the booth will show the penalty amount and excess load amount of the vehicle.
2) Fine will be collected by operator on the booth and after that barrier gate will be open.
3) Truck will be guided to the unloading space for unloading the excess weight.

5.4.3 Safekeeping of Fines and Transfer to the National Treasury

The service provider collects and deposits daily cash in their private account, then issues a cumulative payment cheque to the government division after a specified period (generally monthly basis). A/C pay cheque is deposited to Government account through a challan by Executive Engineer's Office, Division, RHD.

5.5 Unloading Woks

5.5.1 Overview of the Unloading Works

- In principle, vehicles are not allowed to leave the axle load control station in an overloaded condition. (There is a special clause for Overloaded transport refer to the chapter 6.)
- As a general rule, overloaded vehicles are required to unload excess goods at a designated unloading space and transfer the goods to another vehicle, following existing overload rules and regulations refer to **Annexure (1)**.
- The driver of an overloaded vehicle cannot leave the Axle load control station until the fine has been paid as per the existing rules & regulation. Also, necessary measure should be taken to deal with those who are unable to pay their fines as per the existing rules & regulation mentioned. For better management of these scenarios such as parking fees, storage charge, allowable unloading goods the existing rules and regulations have been reviewed by JET and RHD. A proposal has been prepared, as referenced in **Annexure (2)**, for adjustment of fines and fees in future after approval.
- The additional vehicle meant for loading the extra load from the overloaded vehicle when approaching the HSWIM, will be classified as not overloaded and ideally the gates will open for it to proceed without necessarily going through the SSWIM. The operation staff need to give clear directions to the driver whose vehicle is found to be overloaded prior to bringing the additional vehicle to carry the extra load to avoid confusion.
- If required, hand over the driver and associate to the Highway Police or nearest police station along with the vehicle for further legal action.

5.5.2 Unloading Procedures in the ALCS

The unloading procedure shall be as follows:

1) **Instructions for Unloading:** After weighing and determining the vehicle is overloaded, the operator will instruct the driver to proceed to the designated unloading area.
2) **Unloading at Unloading Place:** At the unloading zone, the driver of the overloaded vehicle will park in the designated spot and unload the excess cargo.
3) **Use of Parking Place:** The ALCS should have a designated parking area for overloaded vehicles and any auxiliary vehicles required for the unloading process.
4) **Use of Temporary Storage Warehouse:** Following unloading, the driver can either arrange for additional transportation or opt to store the excess cargo in a temporary warehouse for a fee.
5) **Handling of Unloaded Freight:** Once unloading is complete, the vehicle will be directed back to the weighing lane for re-inspection.
6) **Return to Main Road:** After settling parking and storage fees, the vehicle can only re-enter the main highway if the subsequent weight measurement is within the permitted axle load limits.

5.6 Collection and Submission of Axle Load Measured Data by Service Providers

5.6.1 Data Collection:

Data received from ALCS, including axle load, gross vehicle weight, enforcement actions, freight vehicles, time, location, and operator details shall be stored in the local server established in the ALCS and transmitted to the RHD HQ centralized data server daily.

5.6.2 Report:

The service provider shall deliver a daily report via both Short Message Service (SMS) and email to the responsible Executive Engineer and Sub-Divisional Engineer of the RHD division office by next day within 8:00 a.m. This report will include daily statements, summaries of fine collections, and summaries of weighed and overloaded vehicles. Additionally, the Service Provider shall provide all collected axle load measurement data for a month through a monthly report. The format of the daily and monthly reports should adhere to the Terms of Reference and be agreed by the management of both parties. For reference, some samples of report from Chapter 8 of "1-1 Standard Specifications (ToR) for Service Contracts of Operation and Maintenance of Axle Load Control Station" has been attached in **Annexure (5)**.

5.7 Storage and Analysis of Axle Load Measurement Data in RHD HQ

At RHD HQ, data received from the ALCS will be stored and analyzed through daily data transfers and the Overload Monthly Monitoring Report (OMMR).

5.7.1 Daily Data Transfer:

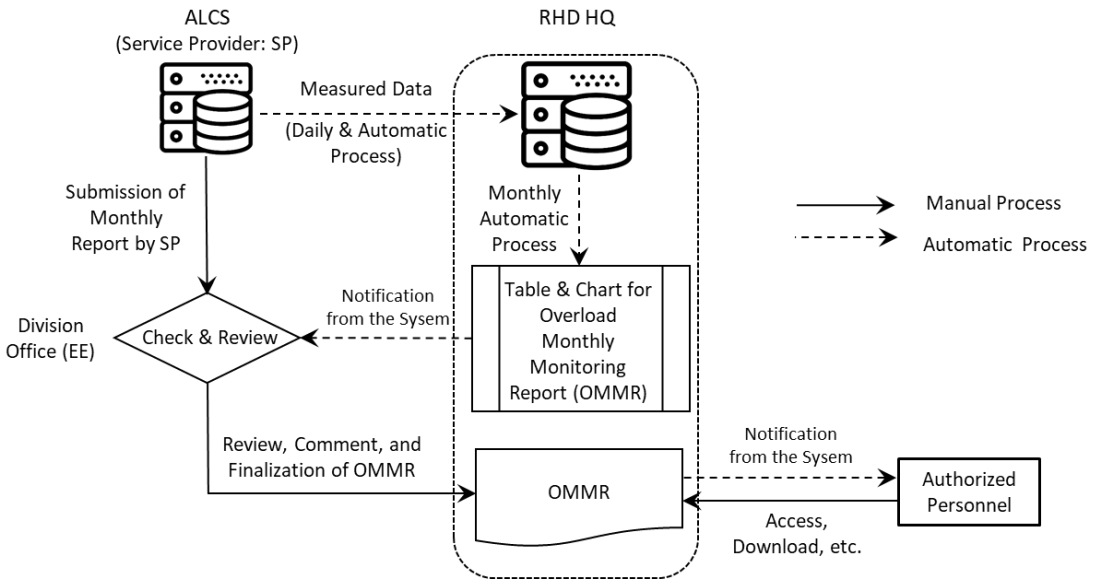
Every day, a significant amount of data will be transferred from each ALCS to RHD HQ. This data includes information on axle load, gross vehicle weight, enforcement actions, freight vehicles, time and location, and the operator of the Axle Load Control Station. The data will be segregated and categorized within a specific framework before being transferred to the RHD HQ data server from each ALCS.

5.7.2 Overload Monthly Monitoring Report (OMMR):

This process involves sharing data with RHD HQ on a monthly basis in the form of a detailed report that includes general information about the ALCS, traffic data, overloaded vehicles, axle

load measurements, fines, comments from the Executive Engineer (EE), deposit records, key performance indicators, and operational logs. The report consists of automatically generated tables and figures based on RHD HQ database data and manual processes handled by the EE of the Division Office, who compares the service provider's report with HQ-generated data, addresses discrepancies, and includes shift work records. All tables and figures in the OMMR for all ALCS shall be generated automatically and reviewed by the EE/DO, who can add comments. The OMMR is stored in RHD HQ and accessible to authorized personnel.

Considering the running and upcoming ALCS, JET has proposed the preparation and sharing procedure for the Overload Monthly Monitoring Report (OMMR) as shown in Figure 5.2. This is a standardized report-sharing procedure.



Source: JICA Expert Team; deliverable 2-9, Data Analysis and Utilization Tanning Plan

Figure 5-2 : Preparation and Sharing Procedure of OMMR

Measures to Ensure Proper Storage and Collection of Data:

- **Data Integrity and Transparency:** Ensure all ALCS data collected is accurate and transparent.
- **Daily Data Transfer:** Transfer all measured data to the RHD central server daily at 11:59 pm.
- **Uninterrupted Internet Connection:** Maintain an uninterrupted internet connection with RHD HQ via a personal ISP for data collection, monitoring, and surveillance.
- **Server Room Security:** Ensure security and safety measures in both local and HQ server rooms (refer to Table 4.3 for details).
- **Periodic Equipment Maintenance:** Regularly maintain equipment related to data transfer.
- **Software Upgrades and Maintenance:** Keep software for data management updated and maintained.
- **Performance Evaluation:** Aim for 100% performance in Data Collection and Storage Service, with an acceptable range of 95% to 100% considering potential issues like internet connectivity problems.

Purpose of Collection & Analysis Axle Load Data at HQ:

- **OMMR Preparation**: Utilize data analysis for preparing a part of the OMMR using web applications.
- **Freight Vehicle Analysis**: Conduct further analysis of the axle load measurements of freight vehicles.
- **Road Pavement Analysis**: Analyze the correlation between road pavement deterioration and overloaded vehicle data.
- **Enhanced Utilization**: Explore the possibility of utilizing analysis results with additional data sources such as road pavement deterioration/distress/damage.
- **Overloaded Vehicle Management Effectiveness**: Assess the effectiveness of managing overloaded vehicles.
- **Cost-Effectiveness**: Evaluate the cost-effectiveness of overloaded vehicle control measures.
- **Verification**: To identify and verify frequently overloaded vehicles using the centralized axle load measurement database in RHD HQ.
- **Statistical Information Extraction:** Gather data on axle load and fine collection for various time period and locations.
- **Identification of Frequently Overloaded Vehicles:** By using the centralized axle load measurement database, vehicle number plate information can be obtained.

To illustrate the relationship among Axle Load Data, Analysis Method, and Effectiveness of Data Analysis, a table has been generated by JET as part of Deliverable 2-9 (Data Analysis and Utilization Training Plan) and is shared in **Annexure (4)**.

6 Handling of Special Overloaded Vehicles

6.1 Handling Oversized Vehicle and Illegally Modified Vehicle

Oversized and illegally modified vehicles are defined as those with body resizing or parts added or removed without the authority's permission, which were not originally present when the fitness certificate was issued by BRTA. These vehicles are categorized as follows:

1) Increased body height.
2) Widened body.
3) Addition or removal of axles without authority's approval.
4) Addition or removal of trailers without authority's approval.
5) Assembling of Vehicles without authority's approval.

Efforts need to be made to detect large vehicles that have been illegally modified as follows:

1) **Frequent Mobile Courts**: Relevant authorities such as BRTA and Highway Police need to frequently conduct mobile courts to identify oversized and illegally modified vehicles.
2) **Legal Action**: Legal action must be taken against the factories responsible for these modifications.
3) **Identification Methods**: Illegally modified oversized vehicles will be identified using RFID tags, ANPR cameras, or manually through the BRTA database.
4) **Enhanced Surveillance**: A considerable number of cameras need to be installed to capture the front, side, and rear views of vehicles on the road to strengthen the surveillance system.
5) **Inter-Agency Cooperation**: Cooperation among relevant authorities such as BRTA, Highway Police, RHD, and BLPA is essential for making decisions, proposals, and conducting legal actions to prevent oversizing and illegal modifications of vehicles.

During mobile court operations and legal actions, BRTA will take the necessary steps regarding the documents of modified vehicles. Identified oversized and modified vehicles will be reported to the Highway Police for further action as per existing rules & regulations refer to **Annexure (1)**.

6.2 Special Cases of Overloaded Vehicles

In some cases, heavy vehicles are overloaded because the materials or item cannot be segregated or separated during transportation. This includes items such as power plant equipment, machinery, artillery, boulder and wood pile, vehicles use in construction, transport heavy vehicles, and cargos transported by tank. These vehicles can be classified as special overloaded vehicles.

The specific wayleaves can be granted by RHD for the following cases.

1) Heavy Machine Transportation that cannot divided
2) Permitted vehicle by other authority (ex. BRTA)
3) Overloaded Bonded Freight Vehicle.

6.3 Handling Special Cases

In ideal cases, no overloaded vehicles shall be allowed to return to the road until unloaded the extra load. The principle behind such proposition is that the overloaded vehicle has already caused the damage caused to the pavement or bridge structures and no further damage cannot be allowed. Even return to the source option without unloading is detrimental to the pavement structure. Exceptional measures should be considered for axle load control stations where no unloading place can be established or until an unloading place is established (Type-II and Type-III). Moreover, cargos for which unloading is impractical and for illegally modified vehicles, special

procedures need to be established. The review proposed by JET and RHD includes strict measure for illegally modified vehicles as referenced in **Annexure (2)**.

The supervisor of the RHD zonal offices shall stipulate the specific management procedures for such cases. The procedure may include a more robust response like:

- Setting higher monetary fine amounts.
- Returning the vehicle to its point of origin (not to its destination) upon payment of a higher amount of fine.
- Penalties for carriers (suspension of business licenses, permits, etc.)

However, such procedure, developed independently, shall be approved in advance by the TSW at RHD Headquarters before being used for on-site supervisory work.

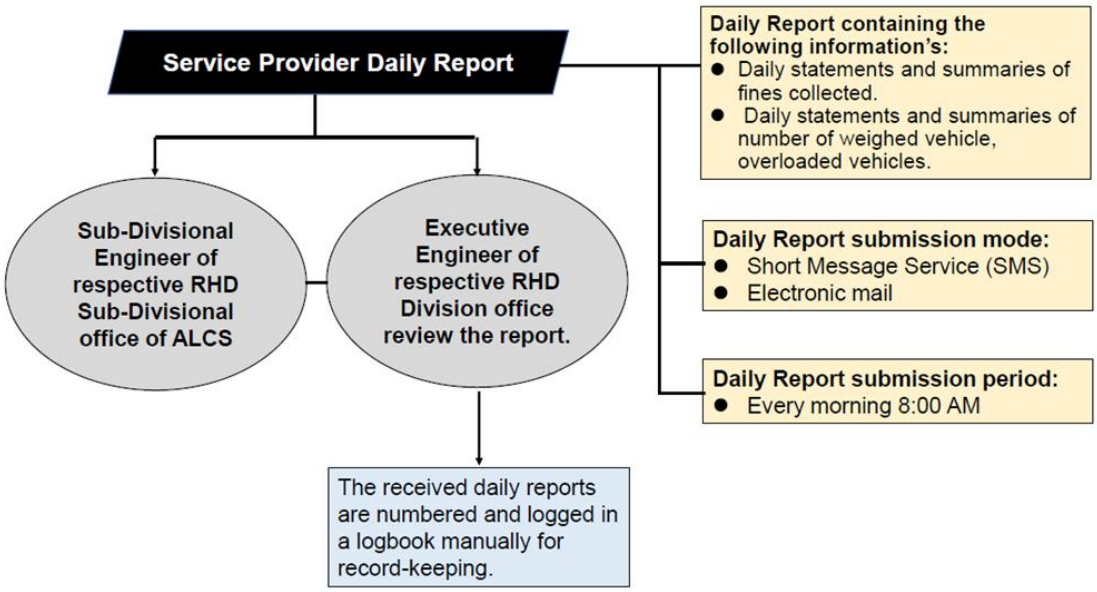
Moreover, to control and reduce the road damage due to special overloaded vehicles, a permit system is necessary to communicate other relevant authorities such as BRTA, BLPA, CPA, MPA, BIWTA, and Highway Police. This system will help the authority to make informed decision prior to provide approval for the special overloaded vehicles to regulate the road damage such as increase the number of axle and trailer to distribute the load, select the route and time for the transportation based on road capacity.

7 Management of Work Reports Submitted by Service Providers

7.1 Report Submission Flow Diagram

7.1.1 Report Submission Flow Diagram for Daily Report

Executive Engineer (EE) of respective Division and Sub-divisional Engineer (SDE) of respective Sub-Division office of RHD will receive daily by 8 a.m. next day. Short Message Services (SMS) and Emails from service provider containing Daily statements & summaries of fines collected and Daily statements & summaries of number of weighed vehicle, overloaded vehicles information. Information shall be numbered and logged in a logbook manually for record keeping purpose and further cross checking with Monthly management report. Report Submission Flow Diagram for Daily Report is shown in Figure-7.1.

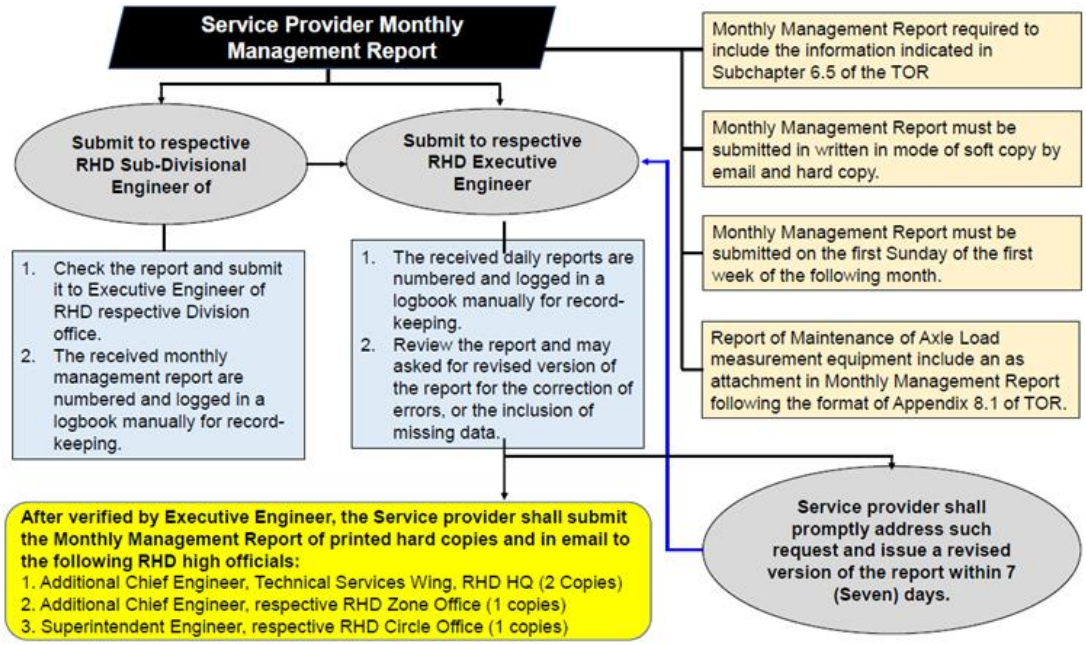


Source: JICA Expert Team

Figure 7-1 : Submission of Daily Reports by Service Providers

7.1.2 Report Submission Flow Diagram for Monthly Management Report

Executive Engineer of respective Division and Sub-divisional Engineer of respective Sub-Division office of RHD will receive Monthly Management Report (hard copy and soft copy by email) from Service provider on the 2nd working day of the first week of the following month. After receiving the report, the Sub-Divisional Engineer will review the contents and crosscheck with the daily report. If Sub-divisional Engineer finds any discrepancy in the report it should be informed to the Executive Engineer to request a revised version of report from service provider within 07 (Seven) days. After receiving the final version of Monthly Management Report from the service provider, Executive Engineer of respective Division office will take necessary action for distribution it to higher officials of RHD as per ToR. Report Submission Flow Diagram for Monthly Management Report is shown in Table-7.2.

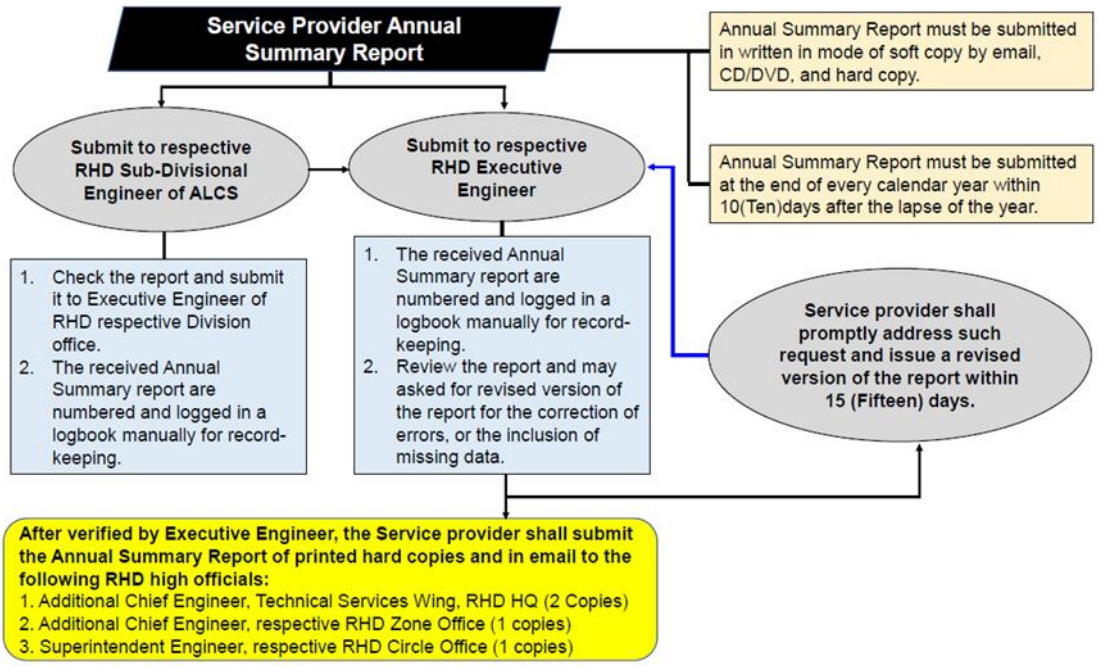


Source: JICA Expert Team

Figure 7-2 : Submission of Monthly Reports by Service Providers

7.1.3 Report Submission Flow Diagram for Annual Summary Report

Executive Engineer of respective Division and Sub-divisional Engineer of respective Sub-Division office of RHD will receive Annual Summary Report (hard copy and soft copy by email/CD/DVD) from service provider at the end of every calendar year within 10(Ten) business/working days after the lapse of the year. After receiving the report, the Sub-Divisional Engineer will review the contents and crosscheck with the monthly management report. If SDE finds any discrepancy in the report it should be informed to Executive Engineer to request a revised version of report from service provider within 15 (Fifteen) days. After receiving the final version of Annual Summary Report from service provider, Executive Engineer of respective Division office will take necessary action for distributing it to higher officials of RHD as per ToR. Report Submission Flow Diagram for Annual Summary Report is shown in Table-7.3.

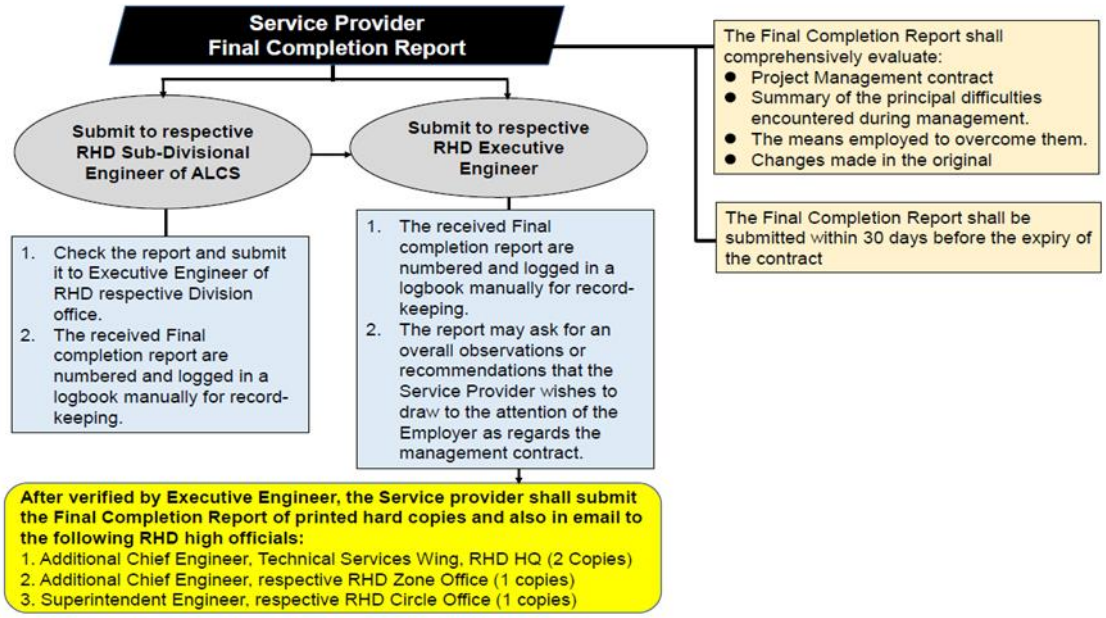


Source: JICA Expert Team

Figure 7-3 : Submission of Annual Summary Report by Service Providers

7.1.4 Report Submission Flow Diagram for Final Completion Report

Executive Engineer of respective Division and Sub-divisional Engineer of respective Sub-Division office of RHD will receive Final Completion Report (hard copy and soft copy by email/CD/DVD) from service provider within 30 days before the expiry of the contract. The Final Completion Report shall comprehensively evaluate the project regarding the Management contract, include a summary of the principal difficulties encountered during management and the means employed to overcome them, changes made in the original operations manual and schedule. The report may make any overall observations or recommendations that the service provider wishes to draw to the attention of the Employer with regards to the Management contract. After receiving the report, the Sub-Divisional Engineer will review the contents and Executive Engineer of respective Division office will verify and take necessary action for distribution of the Report to higher officials of RHD as per ToR. Report Submission Flow Diagram for Final Completion Report is shown in Table-7.4.



Source: JICA Expert Team

Figure 7-4 : Submission of Final Completion Report by Service Providers

7.2 Management of Report by RHD

7.2.1 Management of Daily Report

After receiving the daily report (SMS and email) from service provider, Sub-Divisional and Divisional Office will number it and log in a logbook manually for record-keeping. Information of fines collected, number of weighed vehicle and overloaded vehicles shall be used for crosscheck and verification of Monthly Management report.

7.2.2 Management of Monthly Management Report

After receiving the Monthly Management report from the service provider, Sub-Divisional Engineer will be responsible for crosschecking with the information from logbook of Daily report and verifying the report. After verification of report, Sub-Divisional and Divisional Office will number it and log in a logbook manually for record-keeping. Verified report will be sent to Additional Chief Engineer, Technical Services Wing, RHD HQ (2 Copies), Additional Chief Engineer, respective RHD Zone Office (1 copies) and Superintendent Engineer, respective RHD Circle Office (1 copies).

7.2.3 Management of Annual Summary Report

After receiving the Annual Summary report from the service provider, Sub-Divisional Engineer will be responsible for crosschecking with the information from logbook of Monthly Management report and verifying the report. After verification of report, Sub-Divisional and Divisional Office will number it and log in a logbook manually for record-keeping. Verified report will be sent to Additional Chief Engineer, Technical Services Wing, RHD HQ (2 Copies), Additional Chief Engineer, respective RHD Zone Office (1 copies) and Superintendent Engineer, respective RHD Circle Office (1 copies).

7.2.4 Management of Final Completion Report

After receiving the Final Completion report from service provider, Sub-Divisional and Divisional Office will number it and log in a logbook manually for record-keeping. The information of report such overall observations or recommendations that the service provider wishes to draw to the

attention of the Employer as regards the management contract shall be discussed by Executive Engineer with high official of RHD before starting the process of new contract. Copy of Final Completion Report shall be distributed by divisional office to Additional Chief Engineer, Technical Services Wing, RHD HQ (2 Copies), Additional Chief Engineer, respective RHD Zone Office (1 copies) and Superintendent Engineer, respective RHD Circle Office (1 copies).

8 Monitoring and Evaluation of Works by Service Providers

8.1 Monitoring Framework

All axle load measurement results shall be transmitted and stored in the centralized Database to be located at RHD HQ in Dhaka.

- From the axle load measurement data base, it shall be possible to obtain statistical information on axle load measurements and the amount of fine/penalty collected regarding daily, hourly, weekly, monthly, yearly, per load control station, and the number of all passing vehicles by search.
- RHD HQ shall be able to identify vehicles that are frequently overloaded by searching the centralized axle load measurement database. (As specified in the procedure of SSWIM, the vehicle number plate information will be obtained from RFID tag and recorded into the SSWIM database, then that information will be transferred to the HQ ~~or zonal office~~. RHD HQ shall be able to utilize such information for further analysis).
- For controlling frequent overloading, RHD shall obtain not only the details of the owners of the vehicles but also the name of forwarder, then enforcement to the frequent overloaded vehicles can be implemented.
- The fine will be collected by the operator at the load control station, and the collected cash will be deposited by the operator into the designated account of the RHD. At the same time, the operator submits the daily collection report and the pay order to the treasury to the designated department of RHD HQ.
- Designated department of RHD HQ should deposit the amount to the Treasury Account of Bangladesh Bank based on the pay order.
- The above deposit procedure is performed daily, and if the bank is closed, the deposit will be made on the first business day following the bank holidays.
- RHD HQ will remotely cross-check the Daily Collection Report, records of payments into the RHD's designated account, pay orders to the treasury, automatically receiving WIM measurement records and fine collection records. RHD HQ will also conduct inspections to the load control stations on an unannounced basis by the authorized personnel of RHD.
- The Axle Load Management Database of RHD HQ shall be capable of producing daily reports, monthly statistical reports and annual statistical reports. The daily report shall include the details and summary of the measurement results by WIM types and detail summary of fine collection records. The monthly statistical report shall include a summary of the daily report for one month, and the annual statistical report shall include a summary of the monthly statistical report for 12 months.
- There should be two types of reports to be sent to the Ministry, one being for accounting purposes and the other technical matter. (The remote monitoring function for the Ministry will be confirmed by RHD).

8.2 Evaluation Criteria Determination

The prime goal of this service referred as Key Goal Indicator (KGI) is to reduce the number of overloaded vehicles in major highways of Bangladesh. By performing the described scope of works in ToR, service provider shall monitor overall activities of ALCS for achieving targeted values of KPI, and from these KPI's, Key Goal Indicator (KGI) will be monitored. The strategic objectives, definitions of successes for each objective and the corresponding KPIs produced for each thematic function are provided in Table-8.1.

Table 8-1 : KPIs Produced for Each Thematic Function

Thematic Function	Strategic Objective	Definition of Success	KPI	Time-frame
Vehicle Measuring	• All suspected overloaded freight vehicles detected through initial screening process of HSWIM/SSWIM measured in SSWIM/Static Scale for confirmation of Overloading (Type-I and Type-IV). For Type-II and Type-III respective WIM types and numbers will govern.	• Ensuring proper guidance to enter ALCS. • Ensuring proper functioning through regular maintenance of WIMs and its related equipment.	• The percentage between the numbers of suspected overloaded vehicles detected through initial screening process of the HSWIM/SSWIM to the number of vehicles passed through SSWIM/Static Scale (Type-I and Type-IV). For Type-II, number of overloaded vehicles to number of overloaded vehicles fined and for Type-III, number of penalty receipt delivered against the number of overloaded vehicles identified.	Weekly
Data Collection and Storage	• Everyday total measured data stored in local server is transferred to central server.	• Ensuring uninterrupted power supply • Ensuring uninterrupted Internet Connection • Ensuring proper maintenance of Server system and its equipment.	• The percentage between the numbers of totals collected data in local server and number of total transmitted data to RHD central server from 12:00 a.m. to 11.59 p.m. •	Daily
Fines Collection	• Confirmed overloaded vehicle subjected to impose overweight penalty.	• Ensuring proper enforcement of Govt. rules for fine collection • Ensuring safely transfer to national treasury. • Ensuring proper accounting of daily	• The percentage between Penalty recorded and Penalty deposited (Type-I and Type-IV)/recept delivered (Type-III). (Type-II case is special. See target setting process.)	Weekly

Thematic Function	Strategic Objective	Definition of Success	KPI	Time-frame
		collected fines.		
Unloading	• Confirmed overloaded vehicle in SSWIM/Static Scale must be offloaded. No overloaded vehicle is allowed to go back in highway (Type-I and Type-IV only).	• Ensuring proper management of warehouse and unloading activities. • Ensuring proper engagement of staff to manage unloading activities and warehouse.	• The percentage between the confirmed numbers of overloaded vehicles passed through SSWIM/Static Scale to number of offloaded vehicles (Type-I and Type-IV only). •	Weekly
Operation Efficiency	• Minimize maintenance or downtime and ensure maximum operation hour	• Ensuring engagement of skilled maintenance team. • Ensuring maximum operation hour	• Percentage between actual operating hours to total operating hours in a month. •	Weekly
Real time Data Sharing	• Instant data collection, review and evaluation. • Make Data Accessible as required	• Ensuring uninterrupted power supply • Ensuring uninterrupted Internet Connection • Ensuring proper maintenance of Server system and its equipment.	• Data Acquisition latency 30 to 50 ms is acceptable, more than that will affect the KPI value.	Daily
Automatic Detection	• Automatic vehicle detection and availability of data. • Synchronized connection trough BRTA and other related data server.	• Ensuring uninterrupted power supply • Ensuring uninterrupted Internet Connection • Ensuring proper maintenance of Server system and equipment.	• Percentage of vehicle recognition through Automatic Detection System (RFID / ANPR/ Camera)/ Manual entry to the total number of recorded vehicles.	Monthly

Source: JICA Expert Team

8.3 Target Setting Process

Once the KPI list has been finalized, it is important to set targets based on the current capacity and performance of ALCS and the desired future performance. Each ALCS will develop their

scoring and target model according to their local situation and expectations for services described in ToR. The primary supervision role of the KPIs falls under the jurisdiction of the Sub-Division office of RHD with the Sub-Divisional Engineer being the focal personnel. Thus, the target setting for each ALCS will be based on the discussion with the Sub-Divisional Engineer and the historical performance of the ALCS service. Once the historical performance and the present context are analyzed together by the Sub-Divisional Engineer, the following framework will be used to set targets for each indicator as shown in Table-8.2.

Table 8-2 : Target Setting of KPIs

Thematic Function	KPI	Target Setting Criteria
Vehicle Measuring	• The percentage between the numbers of suspected overloaded vehicles detected through initial screening process of the HSWIM/SSWIM to the number of vehicles passed through SSWIM/Static Scale (Type-I and Type-IV). For Type-II and Type-III respective WIM types and numbers will govern.	• The Service provider shall ensure the vehicles detected as overloaded in HSWIM/SSWIM must be passed through SSWIM/Static Scale (Type-I and Type-IV). Similarly, the number of overloaded vehicles detected to number of overloaded vehicles fined in Type-II ALCS and number of penalty receipt delivered against the number of detected overloaded vehicles in Type-III ALCS shall be ensured. Therefore, the ideal performance evaluation criteria for the vehicle measuring service value must be set 100 %. •
Data Collection and Storage	• Percentage between the number of totals collected data in local server and number of total transmitted data to RHD central server from 12:00 a.m. to 11.59 p.m.	• The Service provider shall ensure that every day the total measured data in the local server must be transferred to RHD central server at 11:59 pm. Hence the performance evaluation criteria for Data Collection and Storage Service shall be 100% but considering unexpected scenarios like internet connection problem or any others, accepted value for Data Collection and Storage Service is 95% ~ 100%.
Fines Collection	• The percentage between the confirmed numbers of overloaded vehicles passed through SSWIM to confirmed number of overloaded vehicles subjected to impose overweight penalty.	• The Service provider shall ensure the vehicles detected as overloaded in SSWIM must be penalized. Therefore, the Ideal performance evaluation criteria for the Fines Collection Service value must be 100%. Target for Type-II can be leniently set because of the presence of returning option without payment.
Unloading Service	• The percentage between the confirmed numbers of overloaded vehicles passed through SSWIM to number of offload vehicles (Type-I and	• The Service provider shall ensure the vehicles detected as overloaded in SSWIM must be offloaded. No overloaded vehicles are allowed to return to the highway. Therefore, the Ideal performance evaluation criteria

	Type-IV only).	for the Unloading Services value must be 100 % (Type-I and Type-IV only).
Operation Efficiency	• Percentage between actual operating hours to total operating hour in a month.	• The Service provider shall ensure that skilled maintenance team is available for any kind of maintenance work of ALCS within a short period of time to minimize down time and ensure maximum operation hour as much as possible. Therefore, the expected value for the Ideal performance evaluation criteria of Operation is more than 95 %
Real time Data Sharing	• Data Acquisition latency 30 to 50 ms is acceptable, more than that will affect the KPI value.	• The Service provider shall ensure that the efficient data transfer. Therefore, the Ideal performance evaluation criteria for the Real time Data Sharing value must be set as follow: Data Acquisition latency < 50 ms
Automatic Detection	• Percentage of vehicle recognition through Automatic Detection System (RFID / ANPR Camera) to the vehicle detection done manually.	• The Service provider shall ensure the maximum vehicles are recognize automatically. Therefore, the Ideal performance evaluation criteria for the vehicle Automatic Detection value can be set at 95 %.

Source: JICA Expert Team

8.4 Monitoring of KPIs

The frequency of monitoring each indicator varies from Daily to Monthly basis depending on the availability of the documents, and the need for evaluation. The Sub-divisional office, as the main responsible for ALCS services and KPI reporting, will require constant support from service provider to collect data and monitor the KPIs.

An important amount of data which feeds the KPIs is derived from the Monthly Management report submitted by service provider. Particularly the ALCS server database can be used for regular capturing and monitoring of the KPIs.

KPIs that need to be measured on a daily, weekly, and monthly basis should be shared with the Executive Engineer for performance evaluation. A comprehensive strategic discussion should follow upon submission of the monthly management report and annual report in order to re-strategize the goals and targets.

8.5 Evaluation of Works

RHD must establish an independent evaluation committee to assess ALCS performance against set standards. This committee should consist of RHD personnel independent of ALCS operations and can include external engineering experts to ensure impartiality in the evaluation process. Upon completion of a certain timeframe of ALCS operation, the evaluation will come down to either of four following outcomes or associated actions that need to be taken as shown in Table-8.3.

Table 8-3 : Evaluation Outcomes and Associated Course of Actions

Evaluation Outcome	Follow up course of action
Target Surpassed Significantly	• If an indicator shows that the target has been surpassed significantly, it means the original target was under evaluated. Major components that have been overlooked need to be identified and readjusted for the future time frame
Target Surpassed	• Surpassed targets would usually mean that the service team has excelled beyond expectations or could also refer to the targets being a little undervalued.
Target Met	• It means the target set has been realistic and achievable. Similar practices need to be ensured for future time frame.
Target Failed	• Failure to meet a target could either indicate overvaluing from the evaluator's end, or under performance from the implementer. In such a case, it is important for RHD to map the reason via reconsidering the set indicator while also taking the service provider's historical quality of performance into account.

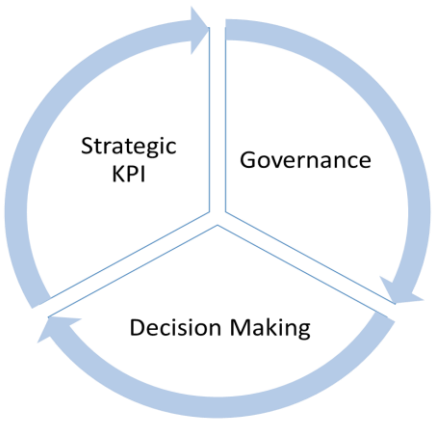
Source: JICA Expert Team

8.6 Monitoring based on Evaluation Result

The KPI evaluation cycle is essential for organizations to track progress, make informed decisions, and ensure the achievement of strategic objectives. This cycle involves three key components:

1) **Formulation of Strategic KPIs**: This first step involves defining the strategic KPIs and setting clear targets.
2) **Governance of Organizational Objectives**: Once the KPIs and targets are established, the focus shifts to governance. Authorities are responsible for developing strategies and mapping out the measurement tools needed to assess the success of the objectives.
3) **Decision-Making and Monitoring**: The final component is making informed decisions based on the data gathered. Effective decision-making leads to improved governance and monitoring, ensuring that the objectives are met efficiently.

For the monitoring and evaluation of KPIs, it is important to collect data from proper sources and ensure the legitimacy of the provided documents by service provider. The Sub-Divisional Engineer may retrieve information from the ALCS database server for analysis KPIs and treatment of KPIs.



Source: JICA Expert Team

Figure 8-1 : KPI Evaluation Cycle

9 Related Documents and Manual

- Annexure-1: Exiting Policy, Law & Regulation
- Annexure-2: Proposed Policy, Law & Regulation
- Annexure-3: Proposed Organogram of Axle load Control Station Management under Technical Services Wing
- Annexure-4: The relationship among Axle Load Data, Analysis Method, and Effectiveness of Data Analysis
- Annexure-5: Report sample submitted by Service Provider
- Annexure-6: List of ALCS under RHD
- Equipment Maintenance and Management
- Database System Management
- Utilization of Data in Database

Annexure 1
Exiting Policy, Law & Regulation

Table-: Summary of the Acts, Rules, Orders, etc. Related to Overloading Regulations in Bangladesh

[Act]

Name	Details	
1)Highways Act 2021 (Previous law: Highways Act 1925)	**Enactment Date**	・ 2021/12/07
	Main Points	・ Function of the RHD
	Outline of the Document	・ RHD's role related to axle load control
2)Road Transport Act 2018 (Previous law: Motor Vehicles Ordinance, 1983)	**Enactment Date**	・ 2018/10/8
	Main Points	・ **The rules regarding axel weight limit and fine** ・ **Procedure of punishment for over weight**
	Outline of the Document	・ Technical terms related to axle load and weigh station ・ Who can issue the fright transport permit? ・ Heavy Vehicle driving license rules ・ Government's Power to Control Road Transport ・ Rule regarding the axel Weight, Weight Limit Control ・ Authority to control / check vehicle weight ・ How to define the fine for overweight? ・ Compensation of the damage caused by overweight vehicle ・ Fine for violating the provisions under Axle Weight, Weight Limit Control ・ Punishment for the accident caused by over weight ・ Trial procedure
3)Bangladesh Road Transport Authority Act 2017 (Previous law: part of old Motor Vehicles Ordinance, 1983)	**Enactment Date**	・ 2017/07/19
	Main Points	・ **The council (Road Transport Advisory Council) decides axel weight limit and fine**
	Outline of the Document	・ Function of the BRTA ・ Supervision and control of passenger and freight transport service ・ Determination and control of axle load and weight limit ・ Road Transport Advisory Council and its function ・ Power to make Rules and Regulations

[Gazette Notification]

4)Highway Police Rule, 2009 (as a part of Police Act 1861)	**Enactment Date**	・ 2009/12/01
	Main Points	・ **Enforcement authority at site**
	Outline of the Document	・ Jurisdiction of Highway Police ・ Highway Police's Duty
5)Operation Policy on Axle Load Control	**Enactment Date**	・ 2012/06/24
	Main Points	・ **Procedure of the axle load station weighing and operation**

Station for Motor Vehicles-2012	**Outline of the Document**	・ Coordination committee related to axle load and its scope of work ・ Axle load Control Station Setup and its ・ Administrative Support ・ Axle Load Measurement and Control Procedure
6)Maximum Permissible Axel and Laden Weight Limit for Motor Vehicles	**Enactment Date**	・ 2003/11/18
	Main Points	・ **Allowable weight limit**
	Outline of the Document	・ Maximum Allowable Weight Limit according to axle number in details

[Office Orders]

8)Related to Fine and Maximum Permissible Axel and Laden Weight Limit for Motor Vehicles	**Enactment Date**	・ (time to time)
	Main Points	・ **Historical change of allowable weight and fine**
	Outline of the Document	・ Rate of Fine for overloaded vehicle ・ Change of allowable weights by office orders (without gazette notification) ・ Change of fines by office orders (without gazette notification)

Source: JICA Expert Team

Maximum Allowable Weight Limit in Bangladesh

（1） Regulations 2004

In May 2004, Bangladesh government enacted regulations setting the maximum permissible loading weight at 44 tons for articulated vehicles and 32 tons for rigid vehicles through "Notification on Overloaded Vehicles Issued November 18, 2003, published in an additional issue of the Bangladesh Gazette on May 05, 2004 (RRD / BRTA / Overload-36/97 (P-One -653)). Details are shown in Table-1.2.

Table-1.2: Maximum Allowable Weight Limit in Bangladesh Imposed in May 2004

Categories	Axle Number	Axles distance from the Centre (Metre)	Maximum allowable weight limit
I	2	3 or less	13
II	2	More than 3	15
III	3	More than 4	22
IV	3	More than 5	25
V	4	More than 5	25
VI	More than 4	More than 7	30
VII	4	More than 8	32
VIII	4	More than 8	33
IX	5	More than 9	35
X	5	More than 10	38
XI	6	More than 10	41
XII	7	More than 10	44

Source: Notification on Overloaded Vehicles Issued November 18, 2003, published in the additional issue of Bangladesh Gazette on May 05, 2004(RRD / BRTA / Overload-36/97 (P-One) -653)

（2） Current Regulations

The present maximum permissible weights for roads in Bangladesh are given in Table-1.3. These

sources of information are based on office orders (other than the official gazette) issued by the Ministry of Road Transport and Bridges from time to time.

Table-1.3: Maximum Allowable Weight Limit in Bangladesh (since July 16, 2021)

Categories	Axle Number	No of Wheels	Maximum allowable weight limit (Ton)
I	2	6 (Laden weight 10-12 tons)	13
II	2	6 (Laden weight 12-14 tons)	16
III	2	6 (Laden weight 14-16 tons)	22
IV	3	6+4 =10	30
V	4	10+4 =14	40
VI	5	14+4 =18	47
VII	6	18+4 =22	49
VIII	7	22+4 =26	52

Note:

According to Road Transport Act 2018, Laden Weight is the maximum loaded vehicle weight approved by the authority for the vehicle concerned.

Source

Notice No.: 35.00.0000.030.22.014.16-75, (Date 22 February 2018);

Notice No.: 35.00.0000.030.22.014.16-164 (Date 30 April 2018)

Notice No.: 35.00.0000.030.99.003.18-12 (Date 16 July 2020).

（3） Special permit only for container transport vehicles (December 18, 2017 to March 18, 2018).

From December 18, 2017 to March 18, 2018 a special permission (office order issued by RTHD, Ministry of Road Transport and Bridges) was valid only for the container carrying vehicles. According to this order, 3 axle (10 wheels) vehicle could carry maximum 35 tons (instead of 30 tons) and 4 axle (14 wheels) vehicle could carry maximum 44 tons (instead of 40 tons). The special permission has been dismissed on March 19, 2018 by the Ministry of Road Transport and Bridges.

There was an observation in July 2020 that all the motor vehicles with 2 axles are not suitable for carrying 22 tons of weight. To address this issue, the Ministry of Road Transport and Bridges issued a corrected version of axle load regulations for 2 axle (6 wheels) vehicles. According to this order in order to prevent road damage, it is necessary to determine the clear weight division based on the laden weight. There are 3 main considerations in this office order are as below:

- When the laden weight is in between 10-12 tons, the maximum allowable weight limit is 13 tons;
- When the laden weight is in between 12-14 tons, the maximum allowable weight limit is 16 tons
- When the laden weight is in between 14-16 tons, the maximum allowable weight limit is 22 tons

Amount of Fines

（4） Rules until November 2017

In August 2016, the government issued another order mentioning the fine as applicable slab wise from 10% to 25% divided into 4 slabs. The highest applicable fine according to this order was 14,000BDT, which was applicable until November 2017.

If a cargo carries more than time of extra weight, one must pay double the previous fine, plus an additional fine of BDT 2,000. (See Tables-1.4 and 1.5)

Table-1.4: Rate of Schedule of the Fine imposed in August 2016

Categories	Axle Number	Axles distance from the Centre (Meter)	Max. allowable wt. limit (Ton)	Extra weight in the specified weight range (Maximum extra weight based on tons)			
				0%~10% (1st slab)	10.01%~15% (2nd slab)	15.01%~20% (3rd slab)	20.01%~25% (4th slab)
I	2	3 or less	13	1.30	1.95	2.60	3.35
II	2	More than 3	15	1.50	2.25	3.00	3.75
III	3	More than 4	22	2.20	3.30	4.40	5.50
IV	3	More than 5	25	2.50	3.75	5.00	6.25
V	4	More than 5	25	2.50	3.75	5.00	6.25
VI	4 plus	More than 7	30	3.00	4.50	6.00	7.50
VII	4	More than 8	32	3.20	4.80	6.40	8.00
VIII	4	More than 8	33	3.30	4.95	6.60	8.25
IX	5	More than 9	35	3.50	5.25	7.00	8.75
X	5	More than 10	38	3.80	5.70	7.60	9.50
XI	6	More than 10	41	4.10	6.15	8.20	10.25
XII	7	More than 10	44	4.40	6.60	8.80	11.00

Motors Axle load control centre operate related rules-2012

Table-1.5: Amount of Fine (slab wise) in August 2016

Weight range	Recommended rate (in money BDT)
0%~10% (1st slab)	2,000 BDT (1st slab)
10.01%~15% (2nd slab)	4,000 BDT (2nd slab)
15.01%~20% (3rd slab)	6,000 BDT (3rd slab)
20.01%~25% (4th slab)	12,000 BDT (4th slab)

（5） Modification of fines based on a Temporarily Revised Maximum Allowable Weight Limits on November 2017

In November 2017, the government has revised the maximum allowable weight limit temporarily. For motor vehicle with 2 axles (6 wheels) was set at 22 tons temporarily (including vehicle and freight), 3 Axles (10 wheels) was set at 30 tons temporarily (including vehicle and freight) and 4 axles (14 wheels) was set at 40 tons temporarily (including vehicle and freight). In the same order the Ministry of Road Transport and Bridges has mentioned to impose a fine of BDT 5,000 for each ton of the overloaded portion.

（6） Revised Fines for February 2018

In February 2018 the fine has been revised as of BDT 5,000 for the first overloaded portion and BDT 10,000 (which was BDT 5,000) for the next overloaded fraction. (See Table-1.6)

Table-1.6: Maximum Allowable Weight Limit for Motor Vehicles and Details of Fine

Categories	Axle Number & Fine Details	Since 2017/11/30 (1)	Since 2018/02/22 (2)	Since 2018/04/30 (3)
I	2 Axles (6 wheels)	22 tons	22 tons	22 tons
II	3 Axles (10 wheels)	30 tons	30 tons	30 tons
III	4 Axles (14 wheels)	40 tons	40 tons	40 tons
IV	5 Axles (18 wheels)	N/A	N/A	47 tons
V	6 Axles (22 wheels)	N/A	N/A	49 tons
VI	7 Axles (26 wheels)	N/A	N/A	52 tons

VII	Fine for: First overload 1 ton weight	5,000BDT/ ton	5,000BDT/ ton	5,000BDT/ ton
VIII	Fine for: every 1 ton onwards overload weight	5,000BDT/ ton	10,000BDT/ ton	10,000BDT/ ton

Source:

1. Notice No.: 35.00.0000.030.22.003.14-369, issued on 30 November 2017

2. Notice No.: 35.00.0000.030.22.014.16-75, issued on 22 February 2018

3. Notice No.: 35.00.0000.030.22.014.16-164, issued on 30 April 2018

Status of Laws, Regulations and Policies related to Overloading:

Road Transport Act 2018

The following are the provisions related to overloading regulations in the "Road Transport Act 2018", Bangladesh's top road and vehicle related legislation.

CHAPTER 8: Traffic and weight limit control, environmental pollution, etc

43. Axle weight, weight limit control, etc.

1) No motor vehicle driver or any person shall be allowed to drive or allow or compel to drive any motor vehicle on the road or highway carrying excess weight of the allowable laden weight, train weight or axle weight.

2) No motor vehicle owner, organization, driver or any other person shall be allowed to increase the unloaded weight mentioned in the registration certificate.

3) The Government, or any institution or body empowered by it, may check the lead weight, train weight or axle weight of a motor vehicle or trailer moving on the road or highway and give instructions to reduce the excess weight of the permitted weight and in such case the motor vehicle driver shall weigh the permitted weight. Will be forced to lose excess weight.

4) Notwithstanding anything contained in sub-section 3), the Government, or any institution or body authorized by the Government, may impose an increasing rate of fine for excess weight in the weight test of motor vehicles operating on roads or highways.

5) The Government shall, by notification in the Gazette, fix or re-determine the rate of penalty referred to in sub-section 4).

6) The Government, or any institution or body empowered by it, may determine or re-determine the maximum laden weight, train weight or axle weight of a motor vehicle or trailer by gazette notification.

7) In case of damage to road, highway, bridge, culvert, bailey bridge, road divider, road or highway side infrastructure, etc. by carrying any excess vehicle in excess of the approved laden weight, train weight or axle weight, the owner and driver of the concerned motor vehicle shall be determined by the Government. Compensation must be paid within 3 (three) months.

8) If the owner and driver of the motor vehicle fails to pay the compensation within the period specified in sub-section 4), such compensation may be recovered in accordance with the Public Demand Recovery Act, 1913.

Policy on Operation of Axle Load Control Station for Motor Vehicles-2012

The "Policy on Operation of Axle Load Control Station for Motor Vehicles-2012", which is the policy established for axle load control and regulation, stipulates the following unloading measures for overloaded vehicles.

Axel load Measurement and Control

1) 9.13 Overloaded cargoes must be returned and allowed to travel to the destination with additional cargo offloaded.
2) 9.14 The owner of the excess cargo, the driver of the vessel, the transport agent and the dispatcher will be responsible for Offloading of permissible freight on arrival, security assurance, taking appropriate measures in the field of decaying goods. In that case, there is no responsibility of the directors of the control center.

9.15 If a freight vehicle carries the extra weight of the permitted weight limit and does not want to return or offload additional cargo according to the instructions, or breaks any other rules, the responsible staff at the Axel Control Center will arrange and handed over to nearest police station and arrangement a police case under FIR according to the Motor Vehicle Ordinance 1983 or any other law made / replaced from time to time.

Following table will segregate above-mentioned law, regulations & policy based on the Axle Load management process.

Freight Vehicles on Main Road to be Guided to the ALCS	Existing policy: The Policy of Axle Load Control Station for Motor Vehicle-2012 o 9.1 All types of freight vehicles will come under the measurement of load control stations. o 9.6 Each freight vehicle must enter through the designated lanes.
Measurement of Vehicle Axle Load	Existing policy: The Policy of Axle Load Control Station for Motor Vehicle-2012 o 9.1 All types of freight vehicles will come under the measurement of load control stations.
Fines Collection	Existing policy: Road Transport Act-2018 o 43.4 Notwithstanding anything contained in sub-section (3), the Government, or any institution or body authorized by the Government, may impose an increasing rate of fine for excess weight in the weight test of motor vehicles operating on roads or highways. o 43.5 The Government shall, by notification in the Gazette, fix or re-determine the rate of penalty referred to in sub-section (4).
Unloading	Existing policy: Road Transport Act-2018 o CHAPTER 8: Traffic and weight limit control, environmental pollution, etc ▪ 43. Axle weight, weight limit control, etc. o Policy on Operation of Axle Load Control Station for Motor Vehicles-2012 ▪ 9.13 Overloaded cargoes must be returned and allowed to travel to the destination with additional cargo offloaded.

	▪ 9.14 The owner of the excess cargo, the driver of the vessel, the transport agent and the dispatcher will be responsible for Offloading of permissible freight on arrival, security assurance, taking appropriate measures in the field of decaying goods. In that case, there is no responsibility of the directors of the control center. ▪ 9.15 If a freight vehicle carries the extra weight of the permitted weight limit and does not want to return or offload additional cargo according to the instructions, or breaks any other rules, the responsible staff at the Axel Control Center will arrange and handed over to nearest police station and arrangement a police case under FIR according to the Motor Vehicle Ordinance 1983 or any other law made / replaced from time to time.

Annexure 2
Proposed Policy, Law & Regulation

1. Proposal for Revision of Relevant Acts, Rules and Policies of Weight Limits in Bangladesh

To improve the capacity of Roads and Highways Department (RHD) and relevant government organizations to reduce the number of overloaded vehicles, it is essential to review the current acts, rules, and policies in Bangladesh. The draft review proposal by the JICA Expert Team (JET) has been discussed in several layers before finalization. Initially, the dedicated technical discussion group, namely Sub-Working Group 03 (SWG-3), consisting of members from RHD, Highway Police (HP), Bangladesh Road Transport Authority (BRTA) and Bangladesh Land Port Authority (BLPA) has provided their feedback and comments on the current Acts, Rules and Operation Policies related to Axle Load Control of Bangladesh and has suggested the items for improvements and modifications. Later, the discussion results were shared with the Joint Coordinating Committee (JCC), formed for supervision and inter-organizational co-ordination of the Project activities, for further clarification time-to-time.

Following intense discussions in the SWG-3 meetings and the JCC meetings, the draft version of the report named "Proposal for Revision of Relevant Rules, Regulations, and Standards on Weight Limits in Bangladesh" was modified and sent to all RHD Zonal Offices on 13 March 2024 for review and feedback. In addition, a workshop (hereinafter named as "stakeholder's workshop") chaired by the RHD Chief Engineer was organized to receive further feedback on this proposal from the all the relevant stakeholders including the representatives from including the officials from Bangladesh Road Transport Authority (BRTA), Highway Police (HP), Bangladesh Land Port Authority (BLPA), Bangladesh Bridge Authority (BBA), Dhaka South City Corporation (DSCC), Bangladesh University of Engineering and Technology (BUET), Ahsanullah University of Science and Technology (AUST), Federation of Bangladesh Chambers of Commerce and Industry (FBCCI), Bangladesh Road Transport Worker Federation, Bangladesh Truck Covered Van Owners Association, media personnel, Roads and Highways Department (RHD), and representatives from the Japan International Cooperation Agency (JICA) on 22 April 2024. In the workshop all the participants acknowledged the necessity of controlling overloaded vehicles on the road and agreed to support the initiatives to control the overloaded vehicles on the roads.

The proposals based on the suggestions provided by SWG 03 members, JCC members, RHD Zonal Offices, and workshop participants are summarized in this part.

1.1 Road Transport Act 2018

1.1.1. Authority to Decide Maximum Weight Limit

Sub-section 8 x (j) of Bangladesh Road Transport Authority Act 2017 (BRTA act 2017) defines Bangladesh Road Transport Authority (BRTA) as the Authority to execute the function of determining maximum permissible axle and laden weight for motor vehicles. On the other hand, sub-section 43 (VI) of Bangladesh Road Transport act 2018 (BRT act 2018) kept this function open for institute/organizations empowered by the Government of Bangladesh. On top of that section 3 of Bangladesh Road Transport Authority Act 2017 declares that the act would govern over all other existing acts and section 3 of Bangladesh Road Transport Act 2018 declares itself as the supplement to BRTA act 2017. However, the current maximum permissible axle and laden weight limits in practice have been determined by several *Office Orders* issued by *Road Transport and Highways Division* In light of the recommendation of the *Road Transport Advisory Council* formed in accordance to Section10 of the BRTA act 2017. However, the functions of *Road Transport Advisory Council* do not exclusively include the determination of Maximum permissible axle and laden weight limit determination and control for motor vehicles.

In addition, the current maximum permissible weight limit is applicable for a certain types of axle configurations and for up to 7-axle vehicles only. In reality, the axle configuration varies in terms of number of axles, number of wheels, distance of axles/axle groups, arrangement of axle and others. A new schedule of weight limits needs to incorporate technical expertise to prepare guidelines for such unattended issues as well as to adapt the load control policies with new technologies.

To avoid intertwined complexities regarding a single authority/process and integrate technical expertise in determining maximum permissible vehicle weight limits, the following modification has been proposed:

Present Related Sections	Proposed Modification / Addition
Road Transport Act 2018 Section 43 Sub-Section VI Government or any Institute/Organization empowered by the Government may determine or re-determine the maximum laden weight, train weight, or axle weight of a motor vehicle or trailer by gazette notification.	**Road Transport Act 2018** In exercise of the power conferred by Section 43; Sub-Section VI of Road Transport Act 2018, the following modification may be considered: RTHD under Ministry of Road Transport and Bridges will determine or re-determine the maximum laden weight, gross vehicle weight or axle weight of a motor vehicle or trailer upon recommendation of *Road Transport Advisory Council* formed in accordance to BRTA act 2017, by gazette notification on behalf of the Government. Note: • A technical sub-committee will be formed with members from RHD, BBA, Highway Police and experts from any renowned research / academic organizations under the chairmanship of BRTA. • The technical sub-committee will forward recommendations of Maximum Allowable weight limit to RTHD.

Present Related Sections	Proposed Modification / Addition
সড়ক পরিবহণ আইন ২০১৮ **ধারা ৪৩** **উপধারা ৬** সরকার, বা তৎকর্তৃক ক্ষমতাপ্রাপ্ত কোনো প্রতিষ্ঠান বা সংস্থা, মোটরযান বা ট্রেইলার এর সর্বোচ্চ লেডেন ওজন, ট্রেইন ওজন বা এক্সেল ওজন, গেজেট প্রজ্ঞাপন দ্বারা, নির্ধারণ বা পুনঃ নির্ধারণ করিতে পারিবে।	**সড়ক পরিবহণ আইন ২০১৮** ***সড়ক পরিবহণ আইন, ২০১৮ এর ধারা ৪৩ উপধারা ৬ এর প্রদত্ত ক্ষমতাবলে প্রজ্ঞাপন জারীর মাধ্যমে নিম্নোক্ত পরিবর্তন আনা যেতে পারে:*** সড়ক পরিবহণ ও সেতু মন্ত্রণালয় (MoRTB) এর অধীনস্থ সড়ক ও মহাসড়ক বিভাগ (RTHD), সড়ক পরিবহন কর্তৃপক্ষ আইন ২০১৮ এর ধারা ১০ এর অনুকুলে গঠিত সড়ক পরিবহন উপদেষ্টা পরিষদের পরামর্শক্রমে, মোটরযান বা ট্রেইলার এর লেডেন ওজন, ট্রেইন ওজন বা এক্সেল ওজন, গেজেট প্রজ্ঞাপন দ্বারা নির্ধারণ বা পুনঃ নির্ধারণ করবে। তবে শর্ত থাকে যে: ক) মোটরযানের এক্সেললোড সীমা ইঞ্জিনিয়ারিং দৃষ্টিকোণ থেকে পর্যালোচনার জন্য সড়ক ও মহাসড়ক বিভাগ প্রজ্ঞাপন জারীর মাধ্যমে বাংলাদেশ সড়ক পরিবহণ কর্তৃপক্ষ (বিআরটিএ)- এর সভাপতিত্বে একটি টেকনিক্যাল উপ-কমিটির গঠন করবে এবং উপ কমিটিতে সদস্যপদে নিম্নোক্ত প্রতিষ্ঠানের কর্মকর্তাগণ থাকবে। • সড়ক ও জনপথ অধিদপ্তর • বাংলাদেশ সেতু কর্তৃপক্ষ • হাইওয়ে পুলিশ • গবেষণা প্রতিষ্ঠান এবং শিক্ষা প্রতিষ্ঠান থেকে বিশেষজ্ঞগণ। খ) টেকনিক্যাল উপ-কমিটি মোটরযান বা ট্রেইলার এর লেডেন ওজন, ট্রেইন ওজন বা এক্সেল ওজন সংক্রান্ত সুপারিশ সড়ক ও মহাসড়ক বিভাগ বরাবর প্রেরণ করবে।

1.1.2. Guidelines for Offloading Access Weight

The Axle Load Control Stations (ALCS) are the essential points of overload correction of motor vehicles on highways. Unfortunately, clear guidelines to handle the excess weight of the vehicle at the ALCS are absent in the existing acts and policies. Moreover, chapter 7 on "Traffic and weight limit control, environmental pollution etc." in the Road Transport Rules 2022 remains completely silent on weight limit control issues. To overcome such gaps, the following modifications in Road Transport Act 2018 have been proposed:

Present Related Sections	Proposed Modification / Addition
Road Transport Act 2018 Section 43 Sub-Section III Government or any Institute / Organization empowered by the Government can measure Laden Wight,	**Road Transport Act 2018** In exercise of the power conferred by Section 43; Sub-Section III of Road Transport Act 2018, and sub-section 4 (22) of Highway Act 2021, the following modification can be considered:

Present Related Sections	Proposed Modification / Addition
Gross Vehicle Weight, or Axle Weight of any Motor vehicle or trailer moving on roads or highways. Furthermore, if the vehicle is carrying more than the allowable weight limit can instruct the overloaded vehicle to reduce extra weight. In such cases, the driver of the motor vehicle will be bound to reduce extra weight. **Highway Act 2021** Section 4 Sub-Section 22 Functions of the Department: Control of the overloaded vehicles on the Highway	a. The Axle Load Control Station Operator deployed by concerned agencies can measure Laden Wight, Gross Vehicle Weight, or Axle Weight of any Motor vehicle or trailer moving on roads or highways and can instruct unloading of the unauthorized additional weight. b. The overloaded motor vehicles measured at the weigh station must pay the fine according to the latest government orders, rules, and regulations. Moreover, the driver of the overloaded vehicle must offload the extra weight before leaving the weigh station. Only after offloading extra weight, the vehicle will be allowed to pass. c. The control and management process of the overweight motor vehicles, as necessary, would be in accordance to the Operation Policy on Axle Load Control Station for Motor Vehicles 2012. d. The law enforcement agency will conduct the investigation to identify the responsible party for the overloading vehicle whether it is the driver or vehicle owner or the owner of the goods or transport agent.
সড়ক পরিবহণ আইন ২০১৮ **ধারা ৪৩** **উপধারা ৩** সরকার, বা তৎকর্তৃক ক্ষমতাপ্রাপ্ত কোনো প্রতিষ্ঠান বা সংস্থা, সড়ক বা মহাসড়কে চলাচলকারী মোটরযান বা ট্রেইলর এর লেডেন ওজন, ট্রেইন ওজন বা এক্সেল ওজন পরীক্ষা করিতে পারিবে এবং অনুমোদিত ওজনের অতিরিক্ত ওজন হ্রাস করিতে নির্দেশ প্রদান করিতে পারিবে এবং উক্ত ক্ষেত্রে করিতে বাধ্য থাকিবেন। মোটরযান চালক অনুমোদিত ওজনের অতিরিক্ত ওজন হ্রাস করিতে বাধ্য থাকিবেন। **মহাসড়ক আইন ২০২১** **ধারা ৪** **উপধারা ২২** অধিদপ্তরের কার্যাবলীঃ মহাসড়কে চলাচল কারী অতিরিক্ত ওজনবাহী যানবাহন চলাচল নিয়ন্ত্রিন।	**সড়ক পরিবহণ আইন ২০১৮** ***সড়ক পরিবহণ আইন, ২০১৮ এর ধারা ৪৩ উপধারা ৩ এ প্রদত্ত ক্ষমতাবলে প্রজ্ঞাপন জারীর মাধ্যমে নিম্নোক্ত পরিবর্তন আনা যেতে পারে:*** ক) এক্সেল লোড কেন্দ্রসমুহ পরিচালনাকারী প্রতিষ্ঠান, মহাসড়কে চলাচলকারী মোটরযান বা ট্রেইলর এর লেডেন ওজন, ট্রেইন ওজন বা এক্সেল ওজন পরীক্ষা করবে এবং অনুমোদিত ওজনের অতিরিক্ত ওজন হ্রাস করিতে নির্দেশ প্রদান করতে পারবে।। খ) মোটরযান চালক অনুমোদিত ওজনের অতিরিক্ত ওজন হ্রাস করিতে বাধ্য থাকিবেন এবং সরকার কর্তৃক নির্ধারিত জরিমানা প্রদান করবে। শুধুমাত্র অনুমোদিত ওজনের অতিরিক্ত ওজন হ্রাস করার পরে, মোটরযানকে এক্সেল লোড কেন্দ্র থেকে যাওয়ার অনুমতি দেওয়া হবে। গ) প্রয়োজনীয় ক্ষেত্রে এক্সেল লোড কন্ট্রোল স্টেশন পরিচালনা নীতিমালা, ২০১২ অনুসরণ করিতে হবে। ঘ) অতিরিক্ত ভারবাহী যানের চালক, মালিক, পরিবহন এজেন্ট এবং পণ্যের মালিক এর মাঝে অতিরিক্ত ওজন পরিবহনকারী যানের জন্য কে বা কারা দায়ী তা আইন প্রয়োগকারী কর্তৃপক্ষ তদন্ত সাপেক্ষে নির্ধারণ করবে।

1.2. Highways Act 2021

1.2.1. Automation and Central Monitoring System of ALCS

Highways Act 2021 defines the functions of Roads and Highways Department (RHD). Automation and the use of artificial intelligence have become the fundamental requirements for smart management of highways. Furthermore, since the scope of axle load control station (ALCS) operation is highly increasing for RHD, automated and web-based monitoring would be imperative for efficient operation, monitor and control of overload using a large number of ALCSs on highways. The following modification has been proposed on this ground:

Present Related Sections	Proposed Modification / Addition
Highways Act 2021 Sub-section 4 (21) Functions of the Department: Establishment and operation of axle load control stations and other ancillary infrastructures for measuring the weight of vehicles plying on the highways; Explanation: For the purpose of this clause, the expression "axle load" means the axle load or axle weight as defined in clause (5) of section 2 of the Road Transport Act, 2018 (Act No. 47 of 2018).	**Highways Act 2021** The sub-section 4 (21) may be replaced by the following phrase: Functions of the Department: Establishment and operation of axle load control stations and other ancillary infrastructures for measuring, monitoring and controlling the weight of vehicles plying on the highways including Automatic Vehicle Identification system, and local/centralized web-based axle load database system for real-time monitoring of the overloaded vehicles. Explanation: For the purpose of this clause, the expression "axle load" means the axle load or axle weight as defined in clause (5) of section 2 of the Road Transport Act, 2018 (Act No. 47 of 2018).
মহাসড়ক আইন ২০২১ **ধারা ৪** **উপধারা ২১** অধিদপ্তরের কার্যাবলীঃ মহাসড়কে চলাচলকারি যানবাহনের ওজন পরিমাপের জন্য এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রসহ আনুসাঙ্গিক অন্যান্য অবকাঠামো স্থাপন ও পরিচালনা। ব্যাখ্যা: এই দফার উদ্দেশ্যে পূরণকল্পে "এক্সেল লোড " অভিব্যক্তি অর্থ সড়ক পরিবহণ আইন, ২০১৮ (২০১৮ সনের ৪৭ নং আইন) এর ধারা ২ এর দফা (৫) এ সংজ্ঞায়িত এক্সেল লোড বা এক্সেল ওজন।	**মহাসড়ক আইন ২০২১** **ধারা ৪** **উপধারা ২১** ***মহাসড়ক আইন, ২০২১ এর ধারা ৪ উপধারা ২১ এ নিম্নোক্ত পরিবর্তন আনা যেতে পারে:*** অধিদপ্তরের কার্যাবলীঃ মহাসড়কে চলাচলকারি যানবাহনের ওজন পরিমাপ, পর্যবেক্ষণ এবং নিয়ন্ত্রনের জন্য এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রসহ আনুসাঙ্গিক অন্যান্য অবকাঠামো যেমন স্বয়ংক্রিয় যানবাহন সনাক্তকরণ সিস্টেম এবং তাৎক্ষনিক পর্যবেক্ষণের নিমিত্ত স্থানীয়/কেন্দ্রীয়ভাবে ওয়েব-বেসড ডাটাবেজ সিস্টেম স্থাপন ও পরিচালন। ব্যাখ্যা: এই দফার উদ্দেশ্যে পূরণকল্পে "এক্সেল লোড " অভিব্যক্তি অর্থ সড়ক পরিবহণ আইন, ২০১৮ (২০১৮ সনের ৪৭ নং আইন) এর ধারা ২ এর দফা (৫) এ সংজ্ঞায়িত এক্সেল লোড বা এক্সেল ওজন।

1.3. Road Transport Rules 2022

1.3.1. Restricting the Modification of Axle and Cargo Body Configuration

Unauthorized modification of axle configuration exerts exponential impact on pavement structures. In addition, modification of freight/cargo body to accommodate additional goods over the allowable limit are frequently observed. These issues have been discussed in the stakeholder's workshop involving representatives from all concerned and regarded as the prime contributors to overloaded vehicles. Although, there remains a general explanation to restrict such modification, the following proposal have been made to specify the need and the imposition of required restrictions.

Present Related Sections	Proposed Modification / Addition
Road Transport Rules 2022 Section 43 Sub-Section I-II **Motor Vehicle Modification**: 1) No modification of the motor vehicle can be done without the written approval of the Motor Vehicle Registering Authority that can be deemed as the alteration of the status in such a way that does not matches with the description of the of the vehicle in its registration certificate and lay on the line of public security: (*General instruction*) However, no written approval will be required if addition or removal of small spare parts changes the vehicle gross weight by 2% from the weight mentioned in the vehicle registration certificate, (*General instruction*) It is prohibited to alter the chassis identification numbers or make modifications that affect the chassis manufacturing, vehicle specifications, vehicle model, or laden weight as stated in the manufacturer's certificate. (*Specific instruction*)	**Road Transport Rules 2022** In exercise of the power conferred by Section 43; Sub-Section II of Road Transport Rules 2022, the following modification may be made: **Motor Vehicle Modification:** 1) …. ……. 2) It is prohibited to alter the chassis identification numbers, **axle configuration**, or make modifications that affect the chassis manufacturing, vehicle specifications, vehicle model, or laden weight as stated in the manufacturer's certificate. In addition**,** section 9.29 can be added to the Operation Policy on Axle Load Control Station 2012 to detect and control such modifications: **9.29.** If it is observed that there is a potential for modification of the axle configuration and body alteration for carrying unauthorized weight, the motor vehicle will be sent to the source destination with relevant charges with penalties.
সড়ক পরিবহণ বিধিমালা, ২০২২ **ধারা ৪৩** **উপ ধারা (১-২):** **মোটরযানের পরিবর্তন।**– (১) কোনো মোটরযানের মালিক রেজিস্ট্রেশন প্রদানকারী কর্তৃপক্ষকে লিখিত নোটিশ প্রদানপূর্বক অনুমোদন গ্রহণ ব্যতীত তাহার মোটরযানে এইরূপ কোনো পরিবর্তন সাধন করিবেন না যাহার দ্বারা রেজিস্ট্রেশন সার্টিফিকেট উল্লিখিত বিবরণসমূহ সঠিক নয় মর্মে প্রতীয়মান হয় এবং জননিরাপত্তার জন্য	**সড়ক পরিবহণ বিধিমালা, ২০২২** **ধারা ৪৩** **উপ ধারা (২):** **সড়ক পরিবহণ বিধিমালা, ২০২২ *এর ধারা ৪৩ উপধারা ২ এ নিম্নোক্ত পরিবর্তন আনা যেতে পারে:*** চ্যাসিস সনাক্তকরণ নম্বরে, চ্যাসিস নির্মাণ ব্যাহত হইতে পারে, এক্সেল কনফিগারেশন পরিবর্তন হইতে পারে, অথবা যানবাহনের নির্মাণ ও মডেল ক্ষুণ্ন

Present Related Sections	Proposed Modification / Addition
হুমকির সৃষ্টি হইতে পারেঃ তবে শর্ত থাকে যে, মোটরযানের খুচরা যন্ত্রাংশ, ইত্যাদি সংযোজন বা বিয়োজনের কারণে রেজিস্ট্রেশন সার্টিফিকেটে উল্লিখিত ওজনের শতকরা ২ (দুই) ভাগ ওজন পরিবর্তিত না হইলে রেজিস্ট্রেশন প্রদানকারী কর্তৃপক্ষের অনুমোদন গ্রহণ করা আবশ্যক হইবে না। (২) চ্যাসিস সনাক্তকরণ নম্বরে, চ্যাসিস নির্মাণ ব্যাহত হইতে পারে, অথবা যানবাহনের নির্মাণ ও মডেল ক্ষুণ্ন হইতে পারে, অথবা নির্মাতা কর্তৃক প্রদত্ত সার্টিফিকেটে বর্ণিত বোঝাই অবস্থার ওজন প্রভাবিত হইতে পারে এইরূপ কোনো পরিবর্তন করা যাইবে না।	হইতে পারে, অথবা নির্মাতা কর্তৃক প্রদত্ত সার্টিফিকেটে বর্ণিত বোঝাই অবস্থার ওজন প্রভাবিত হইতে পারে এইরূপ কোনো পরিবর্তন করা যাইবে না। এছাড়াও, <u>এক্সেল কনফিগারেশন পরিবর্তন</u> এবং অতিরিক্ত ওজন বহনের নিমিত্ত কাঠামো পরিবর্তন নিয়ন্ত্রনের জন্য এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২ এ নিম্নোক্ত উপধারা যোগ করা যেতে পারেঃ ৯.২৯. মোটরযানের কোন এক্সেল গ্রুপের এক্সেল এর সংখ্যা পরিবর্তনের সুযোগ থাকে এবং অতিরিক্ত ওজন বহনের নিমিত্ত কাঠামো পরিবর্তিত- এমন মোটরযানের ক্ষেত্রে জরিমানা গ্রহণপূর্বক উৎসে ফেরত পাঠানো হবে।

1.3.2. Design Axle Load and Current Practices on Weight Limits

Schedule 5 in Road Transport Rules 2022 mentions about maximum axle load as 8.5 ton and maximum gross weight of 32 ton for rigid vehicles and 48 ton for articulated vehicles. However, current practice does not allow to limit on the safe/maximum axle load, as the directives by RTHD from time-to-time has changed the Gross Vehicle Weight (GVW) without considering the design or standard axle load for different classes of vehicles. Such consideration officially recognizes the pavement deterioration potentials by overload and thereby, shorter span of pavement life. The following proposals have been made in line with the proposal 5.1.1, as a solution to determine/re-determine the design axle load for pavement design.

Present Related Sections	Proposed Modification / Addition
Road Transport Rules 2022: Section 35 (I): 1. Except for motor cabs, the authority shall determine the safe laden weight and the safe maximum axle weight for each brand and model of transport vehicles, considering the number, type, and size of tires attached to the wheels and other related factors: 2. Provided that the determined laden weight and axle weight shall not exceed the weight limits specified in **Schedule-5**.	Directives on vehicle weight limits based on the following recommendations may be circulated: ✓ A formula or clear guidelines in Shedule-5 of the Road Transport Rules 2022 can be added to determine the allowable axle load from the Gross Vehicle Weight. ✓ The maximum weight limits prescribed in the Road Transport Rules 2022 (**Schedule 5**) can be practiced instead of the weight limits by interim directives, until the new limits are finalized by the proposed technical committee and the RTHD as proposed in section 5.1.1.
সড়ক পরিবহণ বিধিমালা, ২০২২ **ধারা ৩৫ উপ ধারা (১):** পরিবহণযান রেজিস্ট্রিকরণের বিশেষ শর্তাবলী (১) মোটরক্যাব ভিন্ন অন্য কোনো প্রকারের পরিবহণযানের চাকার সহিত সংযুক্ত টায়ারের সংখ্যা, প্রকৃতি ও আকৃতি এবং সংশ্লিষ্ট অন্যান্য বিষয় বিবেচনা করিয়া কর্তৃপক্ষ প্রত্যেক ব্রান্ড ও মডেলের পরিবহণযানের নিরাপদ লেডেন ওজন এবং প্রত্যেক পরিবহণযানের নিরাপদ সর্বোচ্চ এক্সেল ওজন নির্ধারণ করিবে: তবে শর্ত থাকে যে, নির্ধারিত লেডেন ওজন ও এক্সেল ওজন **তফসিল-৫** এ বর্ণিত ওজনসীমার অধিক হইবে না।	***প্রজ্ঞাপন জারীর মাধ্যমে নিম্নোক্ত পরিবর্তন আনা যেতে পারে:*** ✓ সর্বোচ্চ ওজনসীমা হতে যানবাহনের এক্সেলসমূহের ওজনসীমা নির্ধারণের একটি গ্রহণযোগ্য সূত্র/ফরমূলা অথবা পরিষ্কার নির্দেশনা সড়ক পরিবহন বিধিমালা-২০২২ এর **তফসিল-৫** এ অন্তর্ভূক্ত করা যেতে পারে। ✓ সড়ক পরিবহন বিধিমালা-২০২২ এর **তফসিল -৫** এ বর্ণিত ওজনসীমা অনুসরণপূর্বক মহাসড়কে অতিরিক্ত ওজনবাহী যানবাহন নিয়ন্ত্রণ যেতে পারে যতদিন না প্রস্তাবিত নতুন কারিগরী কমিটি ও সড়ক ও মহাসড়ক বিভাগ কর্তৃক নতুন ওজনসীমা নির্ধারিত না হয়।

1.4. Highway Police Rules 2009

1.4.1. Integration of Overloaded Vehicle Information with RHD Offices

Integration of information is imperative to highway management. In many cases, including axle load control stations (ALCS), operation and management of highway infrastructures are supported by Highway Polices' (HP) enforcing mechanism, which is not a core business of Roads and Highways Department (RHD). However, the relevant information on investigation and enforcement on the highway in connection to the overloaded vehicles and ALCS needs to be informed and recorded for planning, management and assessment of future reinforcement/support needs by the responsible RHD authority. The following proposal has been made on this ground.

Present Related Sections	Proposed Modification / Addition
Highway Police Rules 2009 **Section 8** **Sub-Section: 4** The jurisdiction of the Highway Police shall be as follows, namely: …….. 4) Separate or integrated parking lots for all types of vehicles and the bus stops, stations, bus terminals, truck terminals, petrol pumps, toll plazas, passenger resting places etc. designated by the government adjacent to the highway area. **Section 9** **Sub-Section: 17** Report to the relevant authority if any violation is observed against Highways Act 1925 (Current Version: Highways Act 2021). **Sub-Section: 19** Carry out all duties assigned to the police, including the filing of complaints and investigation reports of crimes committed in the highway area as per the provisions of the Motor Vehicles Ordinance, 1983 (Current Version: Road Transport Act 2018)	**Highway Police Rules 2009** Section 8 of Highway Police Rules 2009 may modify the sub-section 4 as: The jurisdiction of the Highway Police shall be as follows, namely: …….. 4) Separate or integrated parking lots for all types of vehicles and the bus stops, stations, bus terminals, truck terminals, petrol pumps, toll plazas, **axle load control stations**, passenger resting places etc. designated by the government adjacent to the highway area. Section 9 of Highway Police Rules 2009 may modify the sub-section 19 as: Carry out all duties assigned to the police, including the filing of complaints and investigation reports of crimes committed in the highway area as per the provisions of Road Transport Act 2018 and if overloaded vehicles are identified on the highway area, carry out the same duties with notification to the responsible Roads and Highways divisional office, falls under that corresponding jurisdiction.

Present Related Sections	Proposed Modification / Addition
হইওয়ে পুলিশ বিধিমালা ২০০৯ **ধারা ৮** উপধারা ৪ হাইওয়ে পুলিশের অধিক্ষেত্র হবে নিম্নরূপঃ **.....।** ৪) সকল প্রকার যানবাহনের জন্য নির্ধারিত আলাদা বা একীভূত পারকিং এরিয়া এবং বাস স্টপ, স্টেশন, বাস টার্মিনাল, ট্রাক টার্মিনাল, পেট্রোল পাম্প, টোল প্লাজা, যাত্রী ছাউনি ইত্যাদি সরকার কর্তৃক নির্ধারিত মহাসড়কের পার্শ্ববর্তী এলাকাসমূহ। **ধারা ৯** উপধারা ১৭ Highways Act 1925 এর কোন বিধানের লংঘিত হলে সংশ্লিষ্ট কর্তৃপক্ষকে যথাসময়ে অবহিত করণ **উপধারা ১৯** Motor Vehicles Ordinance, 1983 এর বিধান অনুযায়ী হাইওয়ে এলাকায় সংঘটিত অপরাধের অভিযোগ গঠন ও তদন্ত প্রতিবেদন দাখিলসহ অন্যান্য যে সকল দায়িত্ব পুলিশের উপর অর্পণ করা হয়েছে তা সম্পাদন করা	**হইওয়ে পুলিশ বিধিমালা ২০০৯** **হাইওয়ে পুলিশ বিধি ২০০৯ ধারা ৮ এর উপধারা ৪ নিম্নরূপে পরিবর্তন করা যেতে পারেঃ** হাইওয়ে পুলিশের অধিক্ষেত্র হবে নিম্নরূপঃ **.....।** ৪) সকল প্রকার যানবাহনের জন্য নির্ধারিত আলাদা বা একীভূত পারকিং এরিয়া এবং বাস স্টপ, স্টেশন, বাস টার্মিনাল, ট্রাক টার্মিনাল, পেট্রোল পাম্প, টোল প্লাজা, **এক্সেল লোড কন্ট্রোল স্টেশন**, যাত্রী ছাউনি ইত্যাদি সরকার কর্তৃক নির্ধারিত মহাসড়কের পার্শ্ববর্তী এলাকাসমূহ। **হাইওয়ে পুলিশ বিধি ২০০৯ ধারা ৯ এর উপধারা ১৭ নিম্নরূপে পরিবর্তন করা যেতে পারেঃ** Road Transport Act 2022 এর বিধান অনুযায়ী হাইওয়ে এলাকায় সংঘটিত অপরাধের অভিযোগ গঠন ও তদন্ত প্রতিবেদন দাখিলসহ অন্যান্য যে সকল দায়িত্ব পুলিশের উপর অর্পণ করা হয়েছে তা সম্পাদন করা এবং মোটরযান অনুমোদিত ওজন সীমার অতিরিক্ত ওজন বহন করা অবস্থায় সনাক্ত হলে আইনানরূপ যথাযথ ব্যবস্থা গ্রহনকরতঃ সংশ্লিষ্ট অধিক্ষেত্রের সড়ক ও জনপদ অধিদপ্তরের বিভাগীয় কার্যালয়কে অবহিত করা।

1.5. Operation Policy on Axle Load Control Station for Motor Vehicles (2012)

Operation Policy on Axle Load Control Station for Motor Vehicles (2012) is the single document that provides the detail guideline for operation and maintenance of the axle load control stations (ALCS) in Bangladesh. During the group discussions for preparing this draft proposal, several comments have been made by the RHD officials, responsible at the currently operating ALCS, based on their experiences. The following proposals are made based on the comments with a view to strengthen the ALCS operation and mitigate the current challenges.

1.5.1. Administrative Support for the Axle Load Control Stations

Present Related Sections	Proposed Modification / Addition
Operation Policy on Axle Load Control Station for Motor Vehicles (2012) **Section 7:** Administrative Support **Section 7)** All the concerned district and upazila administrations, local police, and highway police will be obliged to provide necessary assistance running the Station. If necessary, the help of any other special forces can be taken.	**Operation Policy on Axle Load Control Station for Motor Vehicles (2012)** The following modification are proposed for section 7: a. All the concerned district and upazila administrations, local police, and highway police will be obliged to provide necessary assistance in running the Station as per the request from RHD. b. Regional Transportation Committee (RTC) of the respective area for each Axle Load Stations formed under the section 27 of Road Transport Act 2018, will provide observation, suggestions, and necessary assistance for proper functioning of the axle load control stations. *(Note: RTC is a crucial committee that maintain vehicle route permit and movement)*
মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা - ২০১২ **ধারা ০৭** কেন্দ্র সংশ্লিষ্ট জেলা ও উপজেলা প্রশাসন, স্থানীয় পুলিশ এবং হাইওয়ে পুলিশ কেন্দ্র পরিচালনার ক্ষেত্রে প্রয়োজনীয় সকল সহায়তা প্রদান করতে বাধ্য থাকবে। প্রয়োজনে অন্য যে কোন বিশেষ বাহিনীর সহায়তা নেয়া যাবে ।	**মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২** **মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২ এর ধারা ৭ নিম্নরূপে পরিবর্তন করা যেতে পারেঃ** ক) কেন্দ্র সংশ্লিষ্ট জেলা ও উপজেলা প্রশাসন, স্থানীয় পুলিশ এবং হাইওয়ে পুলিশ কেন্দ্র পরিচালনার ক্ষেত্রে সংশ্লিষ্ট নির্বাহী প্রকৌশলী, সড়ক ও জনপদ অধিদপ্তরের অনুরধ মোতাবেক তাৎক্ষনিক প্রয়োজনীয় সকল সহায়তা প্রদান করতে বাধ্য থাকবে। প্রয়োজনে অন্য যে কোন বিশেষ বাহিনীর সহায়তা নেয়া যাবে। খ) সড়ক পরিবহণ আইন ২০১৮ এর ২৭ নং ধারার বলবতে গঠিত যাত্রী ও পণ্য পরিবহণ কমিটি (Regional Transport Committee) সংশ্লিষ্ট অঞ্চলের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রসমুহের কার্যকারিতা নিশ্চিতকরণের জন্য পর্যবেক্ষণ, পরামর্শ এবং প্রয়োজনীয় সহায়তা প্রদান করবে।

1.5.2. Management of the Access Weight at the ALCS

Present Related Sections	Proposed Modification / Addition
Operation Policy on Axle Load Control Station for Motor Vehicles (2012) **Section 9:** Axle Load Measurement and Control **9.13)** Overloaded motor vehicles will be returned. However, if the extra weight is offloaded and freight vehicle within the approved maximum weight limit, then the vehicle will be allowed to pass to the destination. **9.14)** Necessary actions such as ensuring security, and preservation in case of perishable goods will rest on the owner / the driver/ the transport agent of the concerned motor vehicle for offloaded additional goods. It will not be the responsibility of the Station operators.	**Operation Policy on Axle Load Control Station for Motor Vehicles (2012)** The following modifications can be made in relation to sub-section 9.13: a. The overloaded motor vehicles measured at the weigh station must pay the fine according to the latest government order, rules, and regulations. b. Moreover, the driver of the overloaded vehicle must offload the extra weight before leaving the weigh station. Only after offloading extra weight, the vehicle will be allowed to pass. The following modifications can be made in relation to sub-section 9.14: a. Overloaded vehicles will be given specific hours to offload the extra weight to another vehicle at ALCS designated parking area. In such a case, a parking fee will be imposed for the waiting time. b. If offloaded goods are stored at the ACLS storage facility (if empty space is available) charges will be imposed depending on unit weight or volume which one is higher. c. The Owner/ the driver/ the transport agent/ the person related to the freight vehicle will be responsible for the security/preservation of offloaded goods. d. For the locations where storage facilities are not available or full of capacity, the overloaded freight vehicle has to pay a parking fee and offload the extra weight into another freight vehicle. e. Stored goods must be transported within twenty-one (21) days. RHD or with the consent of RHD, engaged service provider of ALCS can auction off the remaining stored offloaded goods if the goods are not transported within twenty-one (21) days. • [Note: Reference of 21 days has been taken from section 82 of Customs Act 1969. For the process of Auction, section 47 of chapter 3 described in *Benapole Land Port Operation and Management Regulations 2007*can be used as reference]

Present Related Sections	Proposed Modification / Addition
	f. Perishable goods, chemicals, or any other hazardous material will not be allowed to store at ALCS storage facility. • [Note: In unavoidable cases, the process of handling and discharging such goods section 48 of chapter 3 (for perishable goods) and section 49-56 of chapter 4 (for hazardous/dangerous goods) described in *Benapole Land Port Operation and Management Regulations 2007* can be used as reference] g. A committee to decide the Tariff Schedule of Axle Load Control Station storage facility, auction process and the process of handling, managing and discharging perishable/hazardous material will be formed including members from RHD, HP, BRTA, BLPA, ALCS Operator, and representatives from freight transport associations. RHD will circulate the tariff schedule and relevant processes by gazette notification based on the recommendation of the committee. [Note: A table for unit costs of Warehouse & Open Yard Space Charge, Parking Charges, Handling Charges, including others needs to be prepared and circulated] For a proposal on Warehouse & Open Yard Space Charge, Parking Charges (BDT Per Vehicle Per Hour), Handling Charges (BDT Per Ton per hour), Other Charges (BDT)has been prepared and attached to the report based on *Tariff Schedule of Benapole Land Port 2024*. However, the proposal is a tentative one subjected to decision to be made by the proposed RHD committee on the Tariff Schedule of Axle Load Control Stations.
মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২ **ধারা ৯: এক্সেল লোড পরিমাপ ও নিয়ন্ত্রণ** **উপ-ধারা ৯.১৩** ওভারলোডেড মোটরযানসমূহকে ফেরত পাঠানো হবে তবে অতিরিক্ত মালামাল অফলোড করে মালবাহী যানসমূহকে অনুমোদিত সর্বোচ্চ সীমার মধ্যে এনে পুনরায় একই পদ্ধতি অনুসরণ করে গন্তব্যতে যেতে	**মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২** **মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২ এর উপধারা ৯.১৩ নিম্নরূপে পরিবর্তন করা যেতে পারেঃ** ক) কোন মোটরযান অনুমোদিত ওজন সীমার অতিরিক্ত ওজন বহন করলে অতিরিক্ত ওজনবাহী মোটরযানসমূহকে ফেরত যেতে দেয়া হবে না এবং এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রের দায়িত্বপ্রাপ্ত কর্মী সর্বশেষ সরকার কর্তৃক নির্ধারিত জরিমানা আদায় করবে। খ) অতিরিক্ত মালামাল খালাস করে মালবাহী মোটরযানসমূহকে অনুমোদিত সর্বোচ্চ সীমার মধ্যে এনে

Present Related Sections	Proposed Modification / Addition
দেয়া যেতে পারে। **উপ-ধারা ৯.১৪** প্রয়োজনে অনুমোদনের অতিরিক্ত মালামাল খালাস (Offload), নিরাপত্তা নিশ্চিতকরণ, পচনশীল মালামালের ক্ষেত্রে প্রয়োজনীয় ব্যবস্থা গ্রহণ অতিরিক্ত মালামালের মালিক, সংশ্লিষ্ট মোটরযানের চালক, পরিবহন এজেন্ট এবং বন্দোবস্ত-কারীর উপর বর্তাবে। এতে কেন্দ্র পরিচালনাকারীদের কোন দায়-দায়িত্ব থাকবে না।	পুনরায় একই পদ্ধতি অনুসরণ করে গন্তব্যতে যেতে দেয়া যেতে পারে। তবে মালামাল খালাস করার ক্ষেত্রে উপ-ধারা ৯.১৪ এর শর্ত প্রযোজ্য হবে। **মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২ এর উপধারা ৯.১৪ নিম্নরূপে পরিবর্তন করা যেতে পারেঃ** ক) অনুমোদনের অতিরিক্ত মালবাহী যানসমূহকে এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রের নির্ধারিত পার্কিং এলাকায় অন্য যানবাহনে মালামাল খালাসের জন্য নির্দিষ্ট সময় দেওয়া হবে। তবে এ ক্ষেত্রে পার্কিং ফি আরোপ করা হবে। খ) যদি খালাস করা মালামাল সমূহ এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রের স্টোরেজ এ সংরক্ষণ করা হয় (খালি জায়গার প্রাপ্যতার উপর নির্ভর করে) তবে ইউনিট ওজন বা আয়তনের উপর নির্ভর করে স্টোরেজ চার্জ আরোপ করা হবে। গ) খালাসকৃত মালামালের নিরাপত্তা নিশ্চিতকরণ, পচনশীল মালামালের ক্ষেত্রে প্রয়োজনীয় ব্যবস্থা গ্রহণ অতিরিক্ত মালামালের মালিক, সংশ্লিষ্ট মোটরযানের চালকের উপর বর্তাবে। ঘ) আরও শর্ত থাকে যে, যেসব এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রে স্টোরেজ সুবিধা নাই বা ধারণক্ষমতা পূর্ণ, সেখানে ওভারলোড করা মালবাহী যানটিকে অতিরিক্ত ওজন অন্য মালবাহী যানে অফলোড করতে হবে এবং সেই ক্ষেত্রে নির্ধারিত পার্কিং ফি আরোপিত হবে। ঙ) সংরক্ষিত পণ্য সর্বোচ্চ একুশ (২১) দিনের মধ্যে অপসারণ করতে হবে। এতে কেন্দ্র পরিচালনাকারীদের কোন দায়-দায়িত্ব থাকবে না। প্রয়োজনে সংশ্লিষ্ট সড়ক ও জনপদ অধিদপ্তরের নির্বাহী প্রকৌশলী বা ঊর্ধ্বতর পর্যায়ের কর্মকর্তার প্রত্যক্ষ তত্ত্বাবধানে এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনাকারী প্রতিষ্ঠান সংরক্ষিত পণ্য একুশ (২১) দিন পরে নিলামে তুলতে পারবে। চ) পচনশীল পণ্য, রাসায়নিক বা অন্য কোনও বিপজ্জনক পণ্য এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রের স্টোরেজ এ সংরক্ষণের অনুমতি দেওয়া হবে না। ছ) সড়ক ও জনপথ অধিদপ্তর (স ও জ) , এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রের স্টোরেজ সুবিধা ব্যবহারকারীগণের নিকট

Present Related Sections	Proposed Modification / Addition
	হতে আদায়যোগ্য ফিসের হার নির্ধারণ ও প্রকাশের নিমিত্ত সওজ, হাইওয়ে পুলিস, সড়ক পরিবহন কর্তৃপক্ষ, স্থলবন্দর কর্তৃপক্ষ, এক্সেল লোড ষ্টেশন পরিচালনাকারী প্রতিষ্ঠান ও ভারী মালামাল পরিবহন কমটির সদস্যদের সমন্বয়ে একটি কমিটি গঠন করবে। গঠিত কমিটির দেওয়া সুপারিশ অনুযায়ী প্রজ্ঞাপন জারীর মাধ্যমে সড়ক ও জনপথ অধিদপ্তর এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রের স্টোরেজ সুবিধা ব্যবহারকারীগণের নিকট হতে আদায়যোগ্য ফিসের হার প্রকাশ করবে। [এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রের স্টোরেজ সুবিধা ব্যবহারকারীগণের নিকট হতে আদায়যোগ্য ফিসের হার সম্পর্কিত একটি খসড়া প্রস্তাব **পরিশিষ্ট-E** এ দ্রষ্টব্য। উল্লেখ্য, খসড়া প্রস্তাবটি বেনাপোল স্থলবন্দর এর জন্য নির্ধারিত আদায়যোগ্য ফিসের হার ২০২৪ অনুযায়ী প্রস্তুতকৃত যার চূড়ান্ত সিদ্ধান্ত ধারা ৯ (ছ) এ প্রস্তাবিত কমিটি কর্তৃক নির্ধারণযোগ্য]

1.5.3. Weigh Scale Type and Utilization

Present Related Sections	Proposed Modification / Addition
Operation Policy on Axle Load Control Station for Motor Vehicles (2012) **Section 9:** Axle Load Measurement and Control 9.8) After entering the designated lanes, the station staff will measure the weight of each vehicle using the instrument;	**Operation Policy on Axle Load Control Station for Motor Vehicles (2012)** The following modifications can be made in relation to sub-section 9.8: a. After entering the designated lanes, the station staff will measure each vehicle weight using the scale available at the site. If more than one type of scale available, the slowest wing type scale will be considered for deciding the actual weight. b. Where static type weigh scale is not available, the values determined by the WIMs will be taken into consideration. RHD will determine the allowable limit of error for each weigh scale type for each case. c. Annual Calibration Certification of weight scale from the competent authority such as BSTI and must be visibly shown in the ALCS.
মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা - ২০১২ **ধারা ৯: এক্সেল লোড পরিমাপ ও নিয়ন্ত্রণ** **উপ-ধারা ৯.৮** নির্ধারিত লেনে প্রবেশের পর কেন্দ্রের কর্মীগণ যন্ত্রের মাধ্যমে প্রত্যেকটি যানের ওজনের পরিমাপ গ্রহণ করবে।	**মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২** **মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২ এর উপধারা ৯.৮ নিম্নরূপে পরিবর্তন করা যেতে পারেঃ** ক) নির্ধারিত লেনে প্রবেশের পর এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রের কর্মীগণ কেন্দ্রে উপস্থিত স্কেল ব্যবহার করে প্রত্যেকটি যানের ওজন পরিমাপ করবে। খ) উইম টাইপ স্কেল দ্বারা ওজন নির্ধারণ করা হবে যদি Static type ওজন স্কেল কেন্দ্রে উপস্থিত না থাকে। সড়ক ও জনপদ অধিদপ্তর প্রতিটি ওজন স্কেলের জন্য অনুমোদিত ত্রুটির সীমা (Acceptable error limit) নির্ধারণ করবে। যদি একাধিক প্রকার উইম টাইপ স্কেল উপস্থিত থাকে তবে গ্রহণযোগ্য ওজন নির্ধারণের জন্য ধীরতম (Slowest) উইম টাইপ স্কেলের পাঠ বিবেচনা করা হবে। গ) এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রসমুহের পরিচালনায় সম্পৃক্ত প্রতিষ্ঠান কেন্দ্রে উপস্থিত সকল ওজন স্কেলের বার্ষিক Calibration Certificate - উপযুক্ত কর্তৃপক্ষ (BSTI) হতে সংগ্রহ করবে এবং তা অবশ্যই এক্সেল লোড নিয়ন্ত্রণ কেন্দ্রসমুহে প্রদর্শন করতে বাধ্য থাকবে।

1.5.4. Security/ Enforcement at the ALCS

Present Related Sections	Proposed Modification / Addition
Operation Policy on Axle Load Control Station for Motor Vehicles (2012) **Section 10:** Miscellaneous **10.3)** Separate Enforcement Units will be created as needed to manage Axle load Stations;	**Operation Policy on Axle Load Control Station for Motor Vehicles (2012)** The following modifications can be made in relation to sub-section 10.3: a. At least two (02) Highway police personnel will be present at ALCS site 24 hours to provide necessary support for the enforcement at site. In addition, Mobile court or Magistrate from Local Administration or BRTA can be engaged for the enforcement if necessary. b. Bangladesh Ansar will ensure at all times security of ALCS site.
মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা - ২০১২ **ধারা ১০: এক্সেল লোড পরিমাপ ও নিয়ন্ত্রণ** **উপ-ধারা ১০.৩** এক্সেল লোড কেন্দ্র পরিচালনার জন্য প্রয়োজনে পৃথক Enforcement Unit সৃষ্টি / মোতায়েন করা যাবে।	**মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা - ২০১২** **মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২ এর উপধারা ১০.৩ নিম্নরূপে পরিবর্তন করা যেতে পারেঃ** ক) এক্সেল লোড কেন্দ্রসমূহের নিরাপত্তা নিশ্চিতকরণ ও পরিচালনার জন্য বাংলাদেশ হাইওয়ে পুলিশ এর কমপক্ষে দুই (০২) জন সদস্য সার্বক্ষণিক উপস্থিত থাকবে। কেন্দ্রসমুহতে এক্সেল লোড নিয়ন্ত্রণ কার্যকর করার জন্য প্রয়োজনে ম্যাজিস্ট্রেট নিযুক্ত করনের মাধ্যমে স্থানী প্রশাসন বা বিআরটিএ ভ্রাম্যমাণ আদালত পরিচালনা করবে। খ) বাংলাদেশ আনসার এক্সেল লোড কেন্দ্রের ২৪ ঘণ্টা নিরাপত্তা নিশ্চিত করবে।_

1.5.5. Responsibility of Axle Load Monitoring System

Present Related Sections	Proposed Modification / Addition
Operation Policy on Axle Load Control Station for Motor Vehicles (2012) **Section 10:** Miscellaneous **10.2)** Roads and Highways Department will introduce web-based central monitoring system for weigh station management.	**Operation Policy on Axle Load Control Station for Motor Vehicles (2012)** The following modifications can be made in relation to sub-section 10.2: Roads and Highways Department will introduce web-based central monitoring system for weigh station management. a. Proposed axle load management Sub-Division under Technical Services Wing of RHD will be in charge of Axle Load Control Web-Based Monitoring System. b. Data from the web-based monitoring system will be shared with BRTA, and Highway Police for effective coordination and necessary action. c. Axle Load Control Web-Based Monitoring system will store records of exceptional and accidental cases occurred at ALCS Site.
মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা - ২০১২ **ধারা ১০: বিবিধ** **উপ-ধারা ১০.২** সড়ক ও জনপদ অধিদপ্তর কেন্দ্র পরিচালনার জন্য Web based monitoring system চালু করবে।	**মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২** **মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২ এর উপধারা ১০.২ নিম্নরূপে পরিবর্তন করা যেতে পারেঃ** সড়ক ও জনপদ অধিদপ্তর কেন্দ্র পরিচালনার জন্য Web based monitoring system চালু করবে। ক) টেকনিক্যাল সার্ভিস উইং এর অধীনে প্রস্তাবিত এক্সেল লোড ম্যানেজমেন্ট অধিশাখা এক্সেল লোড Web based monitoring system এর পরিচালনার দায়িত্বে থাকবে। খ) সমন্বয় এবং প্রয়োজনীয় পদক্ষেপ গ্রহণের জন্য এক্সেল লোড কন্ট্রোল ডাটা বিআরটিএ এবং হাইওয়ে পুলিশকে সরবরাহ করা হবে। গ) Web based monitoring system-এ এক্সেল লোড স্টেশনে সংঘটিত অনাকাঙ্ক্ষিত/অসাধারণ ঘটনা এবং দুর্ঘটনার তথ্যসমূহ সংরক্ষিত হবে।

1.5.6. Responsibilities of Public Relation Activities

Present Related Sections	Proposed Modification / Addition
Operation Policy on Axle Load Control Station for Motor Vehicles (2012) **Section 9:** Axle Load Measurement and Control **9.25)** BRTA will undertake motivation and counselling activities to create awareness among transport owners, workers, and others on the accidental loss of life due to overloading and damage to the vehicle, road infrastructure, and the economy.	**Operation Policy on Axle Load Control Station for Motor Vehicles (2012)** The following modifications can be made in relation to sub-section 9.25: a. To sensitize vehicle operators and transport owners and others about the accidental loss of life, damage to property, and road infrastructure as a result of overloading, the Government and private organizations of Bangladesh will take the initiative to arrange joint or individual public awareness programs. b. To conduct the awareness program the following government and private organizations will be involved: o Bangladesh Road Transport Authority (BRTA), o Roads and Highways Department (RHD), o Bangladesh Bridge Authority (BBA) o Highway Police, o Local Government Organizations o Sea Port Authorities o Bangladesh Land Port Authority (BLPA) o Bangladesh Inland Water Transport Authority (BIWTA), o Private organizations including FBCCI, Transport Owners Association, Transport Employ Association o Other industries like construction material manufacturing and supplying organizations etc.
মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা - ২০১২ **ধারা ৯: এক্সেল লোড পরিমাপ ও নিয়ন্ত্রণ** **উপ-ধারা ৯.২৫** যানবাহনে অতিরিক্ত মালামাল বহনের ফলে দূর্ঘটনায় জান-মালের ক্ষতি এবং সড়ক, যানবাহন ও অর্থনীতির যে ক্ষতি হয় সে বিষয়ে সংশ্লিষ্ট সকলের মধ্যে সচেতনতা	**মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা - ২০১২** **মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২ এর উপধারা ৯.২৫ নিম্নরূপে পরিবর্তন করা যেতে পারেঃ** ক) যানবাহনে অতিরিক্ত মালামাল বহনের ফলে দূর্ঘটনায় জান-মালের ক্ষতি এবং সড়ক, যানবাহন ও অর্থনীতির যে ক্ষতি হয় সে বিষয়ে সংশ্লিষ্ট সকলের মধ্যে সচেতনতা সৃষ্টির জন্য পরিবহন মালিক-শ্রমিকদের উদুদ্ধকরণ (Motivation) এবং পরামর্শ প্রদান (counselling) কার্যক্রম বাংলাদেশের সরকারি ও বেসরকারি প্রতিষ্ঠানসমূহ যৌথ বা স্বতন্ত্রভাবে আয়োজনের ব্যবস্থা গ্রহণ করবে।

Present Related Sections	Proposed Modification / Addition

সৃষ্টির জন্য পরিবহন মালিক-শ্রমিকদের উদুদ্ধকরণ (Motivation) এবং পরামর্শ প্রদান (counselling) কার্যক্রম বাংলাদেশ সড়ক পরিবহন কর্তৃপক্ষ (বিআরটিএ) গ্রহণ করবে।	খ) জনসচেতনতামূলক কর্মসূচির আয়োজনের নিম্নবর্তী সরকারি ও বেসরকারি প্রতিষ্ঠানসমূহ নিযুক্ত থাকবে।
	• বাংলাদেশ সড়ক পরিবহন কর্তৃপক্ষ (বিআরটিএ)
	• সড়ক ও জনপদ অধিদপ্তর (স ও জ)
	• বাংলাদেশ সেতু কর্তৃপক্ষ
	• বাংলাদেশ হাইওয়ে পুলিশ
	• কেন্দ্র সংশ্লিষ্ট জেলা ও উপজেলা প্রশাসন
	• নৌ বন্দর কর্তৃপক্ষ
	• বাংলাদেশ স্থল বন্দর কর্তৃপক্ষ
	• বাংলাদেশ অভ্যন্তরীণ নৌ-পরিবহন কর্তৃপক্ষ
	• বেসরকারি প্রতিষ্ঠানসমূহ:
	  ○ ফেডারেশন অব বাংলাদেশ চেম্বার অব কমার্স অ্যান্ড ইন্ডাস্ট্রি
	  ○ বাংলাদেশ সড়ক পরিবহন শ্রমিক ফেডারেশন
	  ○ বাংলাদেশ বাস-ট্রাক ওনার্স এসোসিয়েশন
	  ○ বাংলাদেশ সড়ক পরিবহণ মালিক সমিতি
	• অন্যান্য শিল্প প্রতিষ্ঠান সমূহ যেমন, নির্মাণ সামগ্রী উৎপাদনকারী ও সরবরাহকারী প্রতিষ্ঠান ইত্যাদি।

1.5.7. Management of Modified Vehicles to Carry Overload

Present Related Sections	Proposed Modification / Addition
Operation Policy on Axle Load Control Station for Motor Vehicles (2012) **Section 9:** Axle Load Measurement and Control Sub-section 9.29: [New addition proposed]	**Operation Policy on Axle Load Control Station for Motor Vehicles (2012)** A new section 9.29 can be added to the Operation Policy on Axle Load Control Station 2012 to detect and control axle modifications: **9.29.** If it is observed that there is a potential for modification of the axle configuration and body alteration for carrying unauthorized weight, the motor vehicle will be sent to the source destination with relevant charges with penalties.

Present Related Sections	Proposed Modification / Addition
মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা - ২০১২ **ধারা ৯: এক্সেল লোড পরিমাপ ও নিয়ন্ত্রণ** **উপ-ধারা ৯.২৯ [নতুন সংজোযন প্রস্তাবিত]**	**মোটরযানের এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা - ২০১২** **এক্সেল কনফিগারেশন পরিবর্তন এবং অতিরিক্ত ওজন বহনের নিমিত্ত কাঠামো পরিবর্তন নিয়ন্ত্রনের জন্য এক্সেল লোড নিয়ন্ত্রণ কেন্দ্র পরিচালনা সংক্রান্ত নীতিমালা – ২০১২ একটি নতুন উপধারা ৯.২৯ নিম্নরূপে সংজোযন করা যেতে পারেঃ** ৯.২৯. মোটরযানের কোন এক্সেল গ্রুপের এক্সেল এর সংখ্যা পরিবর্তনের সুযোগ থাকে এবং অতিরিক্ত ওজন বহনের নিমিত্ত কাঠামো পরিবর্তিত- এমন মোটরযানের ক্ষেত্রে জরিমানা গ্রহণপূর্বক উৎসে ফেরত পাঠানো হবে।

1.6. Office Orders

1.6.1. Weight Limits on Axle/Gross Vehicle Weight

As a functional authority to decide on the weight limit of motor vehicles [BRTA act 2017: sub-section 8(x) (j)], Bangladesh Road Transport Authority (BRTA) proposed the maximum allowable Axle weight and Gross weight of different types of vehicles in the year 2003. Based on the BRAT proposal, a notification was published in Bangladesh Gazette on May 2004. However, the current maximum permissible axle and laden weight limits in practice have been determined by several *Office Orders* issued by *Road Transport and Highways Division (RTHD)* in light of the recommendation of the *Road Transport Advisory Council (see appendices A)*. As already described in section 5.3.2, the directives by RTHD from time-to-time has changed the Gross Vehicle Weight (GVW) without considering the design or standard axle load for different classes of vehicles. Such consideration officially recognizes the pavement deterioration potentials by overload and thereby, shorter span of pavement life. It is worth mentioning that there is a worldwide standard of design axle load for pavement design, and the maximum allowable weight limits (gross + axle) notified by BRTA follows that standard. Further, the office orders by RTHD were temporary decisions only (not Gazetted). Unfortunately, the temporary decisions are still in practice for which clear directives should be made by the policy makers based on the technical ground and international practices.

Present Status	Proposals
1. Gross vehicle weight instead if axle weight is considered as the weight limit at present. 2. Temporary office orders have increased the gross vehicle weight limit without considering the standard for design axle load (**see appendices A**). 3. Temporary office orders for maximum allowable vehicle weight limits are in practice instead of the maximum allowable vehicle weight limits (gross weight + axle weight) published by gazette notification (**see appendices C**). and published in Road Transport Rules 2022	Directives on vehicle weight limits based on the following recommendations may be circulated: a. The Axle load limit and Gross Vehicle Weight limit shall be determined based on Maximum safe Axle Weight/ Total Vehicle Weight recommended in Section 35 (*Special Condition for transport vehicle registration*) of Road Transport Rules, 2022 published in exercise of the power conferred by section 122 of Road Transport Act 2018" b. In future, when Technical Committee will review and decide Maximum safe Axle Weight / Total Vehicle Weight, the international practice of the axle load limit needs to be taken under consideration to determine the axle load limit of motor vehicles in Bangladesh.
সড়কে চলাচলকারী যানবাহনের জন্য এক্সেল লোডের সর্বোচ্চ সীমা নির্ধারণ করে যোগাযোগ মন্ত্রণালয় প্রজ্ঞাপন প্রকাশিত করে (পরিশিষ্ট C)। পরবর্তীতে সড়ক ও মহাসড়aক বিভাগ নিম্নবর্তী অফিস আদেশ সমূহ জারীর মাধ্যমে এক্সেল লোডের সর্বোচ্চ সীমা সাময়িকভাবে বৃদ্ধি করে (পরিশিষ্ট A-2, A-5 ও A-7)।	***প্রজ্ঞাপন জারীর মাধ্যমে নিম্নোক্ত পরিবর্তন আনা যেতে পারে:*** সড়ক ও মহাসড়ক বিভাগ পরিপত্র জারী করে পরিশিষ্ট A-2, A-5 ও A-7 এ উল্লেখিত অফিস আদেশ সমূহ বিলুপ্ত করনের মাধ্যমে সরকার কর্তৃক পূর্ববর্তী নির্ধারিত ও প্রকাশিত লেডেন ও এক্সেল ওজনের সর্বোচ্চ সীমা বহাল করবে, যা যোগাযোগ মন্ত্রণালয় প্রজ্ঞাপন জারীর মাধ্যমে প্রকাশিত করে (পরিশিষ্ট-খ)। এখানে উল্লেখ্য যে সরকার কর্তৃক পূর্ববর্তী নির্ধারিত ও প্রকাশিত লেডেন ও এক্সেল

Present Status	Proposals
	ওজনের সর্বোচ্চ সীমা এবং সড়ক পরিবহণ বিধিমালা, ২০২২ এর তফসিল-৫ এ বর্ণিত ওজনসীমা একই।

1.6.2. Penalty Fee Payment

The directives/office orders by Road Transport and Highways Division (RTHD) have determined/re-determined the fines related to overloaded vehicles time-to-time related. However, clear indication on the timeframe of paying the penalty is absent in those orders. However, the provisions for timeframe of paying penalty are subjected to the operation policy of ALCS as the operating procedure may differ based on the type of ALCS (such as, with or without service area facilities, or pay-at-station or time-based payment etc.).

Present Status	Proposal
Existing office orders only indicate the overload penalty fee amount without mentioning the time frame to pay the imposed penalty fee.	Directives based on the following recommendations may be circulated: The vehicle driver will pay penalty fee at ALCS site or will be given 24 hours to pay the overweight penalty fee without any delay charge. After 24 hours, daily extra charge will be added with the overweight penalty fee for up to Twenty-One (21) days. If the penalty fee is not paid within 21 days, driver's license number and registration number of overloaded vehicles will be reported to BRTA for suspension.
জারীকৃত অফিস আদেশ সমুহতে অতিরিক্ত ভারবহনের জন্য শুধুমাত্র আরোপিত জরিমানা উল্লেখিত থাকলে ও তা প্রদানের সময়সীমা নির্দিষ্ট করা হয়নি।	***প্রজ্ঞাপন জারীর মাধ্যমে নিম্নোক্ত পরিবর্তন আনা যেতে পারে:*** ক) সরকার কর্তৃক নির্ধারিত মোটরযান বা ট্রেইলার এর সর্বোচ্চ লেডেন ওজন, ট্রেইন ওজন বা এক্সেল ওজন কার্যকর করার জন্য এক্সেল লোড কেন্দ্রসমুহতে মোটরযান বা ট্রেইলার - এর চালক সরকার কর্তৃক নির্ধারিত অতিরিক্ত ওজনের জরিমানা প্রদান করবেন অথবা কোন বিলম্ব চার্জ ছাড়াই পরবর্তী ২৪ ঘণ্টার মধ্যে জরিমানা প্রদানের সুযোগ দেওয়া হবে। যদি ২৪ ঘণ্টার মধ্যে জরিমানা প্রদান সম্ভব না হয় সেই ক্ষেত্রে পরবর্তী একুশ (২১) দিন পর্যন্ত সময় দেওয়া হবে তবে অতিরিক্ত ওজনের জরিমানার সাথে দৈনিক বিলম্বন চার্জ যোগ করা হবে। যদি মোটরযান চালক একুশ (২১) দিনের মধ্যে পরিশোধ করতে ব্যর্থ হয় তবে চালকের লাইসেন্স নম্বর এবং অতিরিক্ত ওজন-বাহী মোটরযানের রেজিস্ট্রেশন নম্বর সাময়িক ভাবে স্থগিত এর জন্য বাংলাদেশ সড়ক পরিবহন কর্তৃপক্ষ (বিআরটিএ) কে জানানো হবে।

1.7. Acts/Rules/Regulations of Land Port, Inland Shipping and Sea Port Authorities

1.7.1. Overload Control at Source

The workshop organized held on 22 April 2024 to receive feedback from all the relevant stakeholders recorded several vital recommendations from the participants and have been highly regarded while finalizing this document.

Apart from the recommendations on overload control on the highway network and at the Axle Load control Stations, controlling of overload at the origin/source has been advocated from several corners at the workshop. Stakeholders' representatives from Bangladesh Road Transport Workers, RHD officials and Academicians provided their concerns in this regard. However, while discussing the issue with Bangladesh Land Port Authority (BLPA) representative informed that ***BLPA measures the weight of trucks entering from India. However, there is a lack of measurement for the weight of trucks where goods are offloaded on the Bangladesh side.***

It is worth mentioning here that in response to the limit imposed on 4 (four) axle goods/container vehicles as 33 (thirty-three) metric ton, which was later increased to 40 (forty) metric ton, Chittagong Port Authority (CPA) communicated with Road Transport and Highways Division (RTHD) on the maximum weights of cargo arriving at the port. As per the communication by CPA, cargos arriving at the port, having 20' containers or 40' containers, average gross weight of 49.30% containers (including goods) is more than 22 ton. The letter mentioned that, as per ISO rating, throughout the world, maximum gross weight limit of bowser, containing 20' containers of goods is 24 metric ton and 40' containers of goods is 30.48 metric ton. By adding approx. 12 metric ton weight of empty trailer with the 20 containers' maximum weight 24 metric ton as per ISO limit, maximum gross weight of trailer with 20 containers become 36 metric ton and with 40 containers become 42.48 metric ton.

Following the current arrangement of BLPA, container limits at CPA, and the workshop recommendation on overload control at source, the relevant acts, rules and regulations of different port authorities were reviewed including Bangladesh Land Port Authority Act 2001, Benapole Land Port Operation and Management Regulations 2007, Bangladesh Inland Shipping Act 2005, Bangladesh Inland Shipping Rules 2019, Inland Container Terminal Construction and Operation Guidelines 2013 (published by BIWTA), Chittagong Port Authority Act 2022, and Mongla Port Authority Act 1995. Unfortunately, ***no specific section or clause was found in those documents regarding the overload control of the freights loaded at the port facilities***.

To effectively address the load limits of freight transportation from various types of ports in Bangladesh (Land Ports, Inland Shipping Ports, and Sea Ports), the following suggestions have been made:

Benapole Land Port Operation and Management Regulations-2007/বেনাপোল স্থলবন্দর পরিচালনা ও ব্যবস্থাপনা প্রবিধানমালা-২০০৭

Present Status	Proposal
No Specific provision on control of axle load of freight transports	**Benapole Land Port Operation and Management Regulations-2007** **A new sub-section (19) can be added to section 2 of the Benapole Land Port Operation and Management Regulations (2007) as below:** • Definitions (19) 'Excess Goods' refers to the portion of goods and merchandise that causes a vehicle to exceed the maximum weight limit, including the prescribed axle configuration, as determined by the appropriate authorities for road and highway transport. **A new sub-section (c) can be added to section 11 of the Benapole Land Port Operation and Management Regulations (2007) as below:** **(3) Weighing of Goods etc.** (c) Before leaving the port, weighing of the vehicles with imported goods or merchandise shall be ensured and the maximum weight limit of the vehicle along with the prescribed axle configuration shall be complied during the weighing, as determined by the appropriate authorities for transport on roads and highways.
	বেনাপোল স্থলবন্দর পরিচালনা ও ব্যবস্থাপনা প্রবিধানমালা (২০০৭) এর ধারা-২ এ নতুন উপধারা (১৯) নিম্নরূপে সংযোজন করা যেতে পারেঃ **ধারা-২: সংজ্ঞা** (১৯) 'অতিরিক্ত পণ্যদ্রব্য' বলতে পণ্যদ্রব্যের সেই অংশকে বোঝায় যা সড়ক ও মহাসড়ক পরিবহনের জন্য যথাযথ কর্তৃপক্ষ কর্তৃক নির্ধারিত এক্সেল কনফিগারেশন সহ একটি গাড়ির সর্বোচ্চ ওজনের সীমা অতিক্রম করে। **বেনাপোল স্থলবন্দর পরিচালনা ও ব্যবস্থাপনা প্রবিধানমালা (২০০৭) এর ধারা-১১ এ নতুন উপধারা (৩) নিম্নরূপে সংযোজন করা যেতে পারেঃ** **ধারা-১১: মালামাল ওজনকরন, ইত্যাদি।** (৩) বন্দর হইতে ত্যাগের পূর্বে আমদানিকৃত মালামাল বা পন্যদ্রব্যসহ যানবাহনের ওজনকরণ নিশ্চিত করিতে হইবে এবং এক্ষেত্রে সড়ক-মহাসড়কে পরিবহনের জন্য যথাযথ কর্তৃপক্ষের দ্বারা নির্ধারিত যানবাহনের সর্বোচ্চ ওজনসীমা এবং নির্ধারিত এক্সেল কনফিগারেশন নিশ্চিত করিতে হইবে।

Inland Container Terminal Construction and Operation Guidelines-2013/ অভ্যন্তরীণ নৌ-কন্টেইনার টার্মিনাল নির্মাণ ও পরিচালনা নির্দেশিকা-২০১৩

Present Status	Proposal
No Specific provision on control of axle load of freight transports	**Inland Container Terminal Construction and Operation Guidelines (2013)** **A new sub-section (c) to be added to section 4 of the Inland Container Terminal Construction and Operation Guidelines (2013) as below:** **Section 4: Functions of Inland Container Terminal** (c) To decide cargo weights based on the maximum permissible weight limits for goods transport on roads and highways while distributing containers, and to ensure the axle configuration of freights in line with the minimum weights limits of containers, as applicable and as determined by the appropriate authorities.
	অভ্যন্তরীণ নৌ-কন্টেইনার টার্মিনাল নির্মাণ ও পরিচালনা নির্দেশিকা-২০১৩ এর ধারা-৪ এ নতুন উপধারা (গ) নিম্নরূপে সংযোজন করা যেতে পারেঃ **ধারা-৪: অভ্যন্তরীন নৌ-কন্টেইনার টারমিনাল এর কার্যাবলী** (গ) কন্টেইনার বিতরণের ক্ষেত্রে সড়ক-মহাসড়কে পন্য পরিবহনের জন্য নির্ধারিত সর্বোচ্চ ওজনসীমা অনুযায়ী কারগোর (cargo) নির্ধারণ করা এবং প্রয়োজনে কন্টেইনারের নূন্যতম ওজনের সাথে সামঞ্জস্য রেখে যথাযথ কর্তৃপক্ষের দ্ধারা নির্ধারিত এক্সেল কনফিগারেশন নিশ্চিত করে কন্টেইনার বিতরণ করা।

Chittagong Port Authority Act-2022/ চট্টগ্রাম বন্দর কর্তৃপক্ষ আইন -২০২২

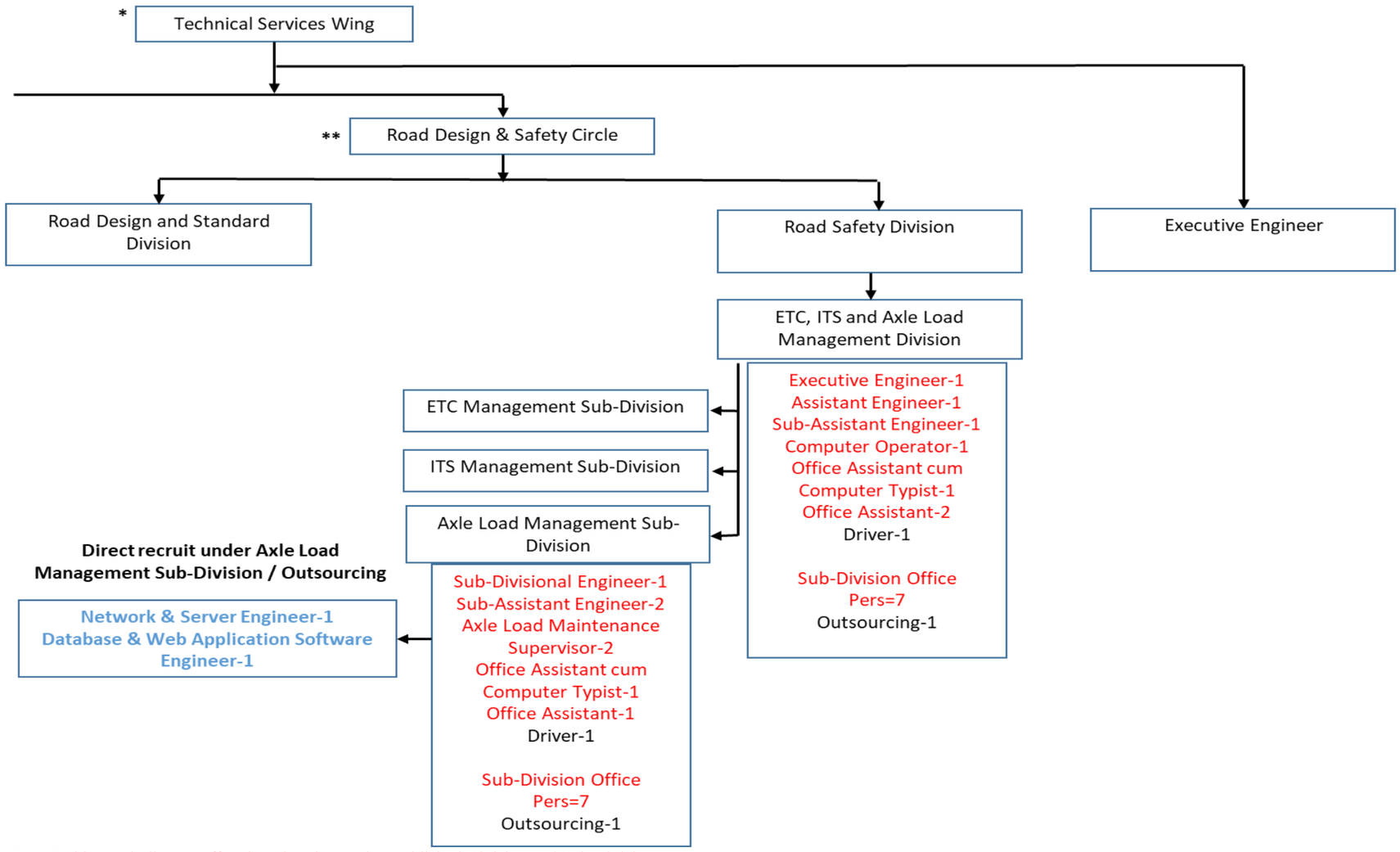
Present Status	Proposal
No Specific provision on control of axle load of freight transports	**Chittagong Port Authority Act (2022)** **A new sub-section (f) can be added to section 10(2) of the Chittagong Port Authority Act (2022) as below:** **Section 10(2): Powers and Functions of the Authority** (f) To decide cargo weights based on the maximum permissible weight limits for goods transport on roads and highways while distributing containers, and to ensure the axle configuration of freights in line with the minimum weights limits of containers, as applicable and as determined by the appropriate authorities.
	চট্টগ্রাম বন্দর কর্তৃপক্ষ আইন -২০২২ এর ধারা-১০(২) এ নতুন উপধারা (চ) নিম্নরূপে সংযোজন করা যেতে পারেঃ ধারা-১০: কর্তৃপক্ষের ক্ষমতা ও দায়িত্ব (চ) কন্টেইনার বিতরণের ক্ষেত্রে সড়ক-মহাসড়কে পন্য

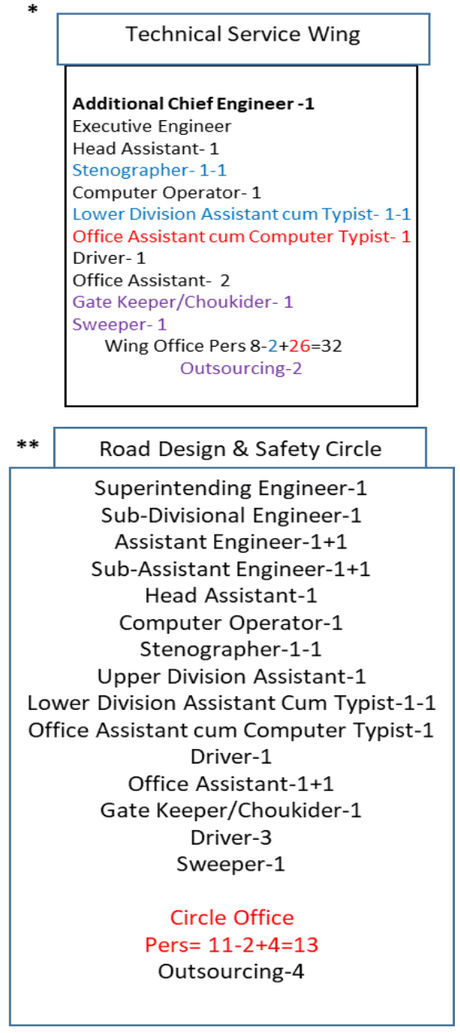
Present Status	Proposal
	পরিবহনের জন্য নির্ধারিত সর্বোচ্চ ওজনসীমা অনুযায়ী কারগোর (cargo) নির্ধারণ করা এবং প্রয়োজনে কন্টেইনারের নূন্যতম ওজনের সাথে সামঞ্জস্য রেখে যথাযথ কর্তৃপক্ষের দ্বারা নির্ধারিত এক্সেল কনফিগারেশন নিশ্চিত করে কন্টেইনার বিতরণ করা।

Mongla Port Authority Act-1995/ মংলা বন্দর কর্তৃপক্ষ আইন -১৯৯৫

Present Status	Proposal
No Specific provision on control of axle load of freight transports	Mongla Port Authority Act (1995) A new sub-section (e) can be added to section 10(2) of the Mongla Port Authority Act (1995) as below: **Section 10(2): Powers and Functions of the Authority** (e) To decide cargo weights based on the maximum permissible weight limits for goods transport on roads and highways while distributing containers, and to ensure the axle configuration of freights in line with the minimum weights limits of containers, as applicable and as determined by the appropriate authorities.
	চট্টগ্রাম বন্দর কর্তৃপক্ষ আইন -২০২২ এর ধারা-১০(২) এ নতুন উপধারা (ঙ) নিম্নরূপে সংযোজন করা যেতে পারেঃ ধারা-১০: কর্তৃপক্ষের ক্ষমতা ও দায়িত্ব (ঙ) কন্টেইনার বিতরণের ক্ষেত্রে সড়ক-মহাসড়কে পন্য পরিবহনের জন্য নির্ধারিত সর্বোচ্চ ওজনসীমা অনুযায়ী কারগোর (cargo) নির্ধারণ করা এবং প্রয়োজনে কন্টেইনারের নূন্যতম ওজনের সাথে সামঞ্জস্য রেখে যথাযথ কর্তৃপক্ষের দ্বারা নির্ধারিত এক্সেল কনফিগারেশন নিশ্চিত করে কন্টেইনার বিতরণ করা।

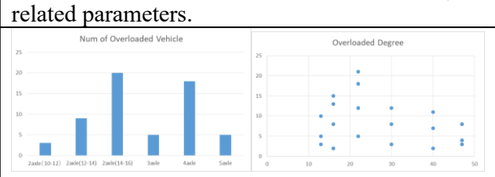
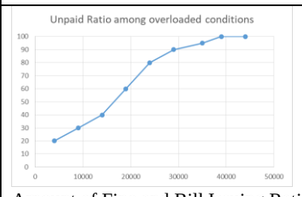
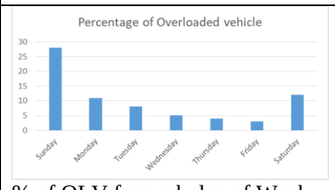
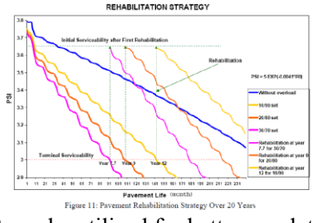
Annexure 3
Proposed Organogram of Axle load Control Station Management under Technical Services Wing





Note: Red letters indicate staff assigned to the newly established Division and Sub Division.

Annexure 4
The relationship among Axle Load Data, Analysis Method, and Effectiveness of Data Analysis

No.	Data Category	**Data on Axle Load and Gross Vehicle Weight**	**Data on Enforcement**	**Data on Freight Vehicle**	**Data on Time and Location**	**Data on Operator of Axle Load Control Station**	Remark
1	Data Item	Each Axle Load Gross Vehicle Weight	Fine Amount charged and Collected Amount of fine Unloading status	Number Plate Vehicle Class/ Allowable weight Number of axles Photo of vehicle front image	Location of Axle Load Control Station Measured Lane Measured Time data (Year, Month, date, and time)	Operating Company ID of staff in the Booth who would collect fine	
2	Objectives of Analysis	Whether the measured freight vehicle is overloaded or not.	What kinds of measures like fine would be effective for excluding overloaded vehicles from national highways	Frequent offenders (vehicle owner) of overloading would be identified by accessing the BRTA's vehicle registration database. It is also expected whether the vehicle is illegally modified or not.	To analyze the characteristics/trend of overloaded vehicles (OLV).	To check the proper operation or not.	
3	Expected outcome	Proper maintenance timing and cost would be expected for road structure, pavement, and so on if overloaded vehicle is requested to unload up to the allowable limit.	It is expected that the driver/owner of the vehicle would not attempting to drive an overloaded freight vehicle on the highways and public roads.	Make drivers (vehicle owners, carriers) who do not comply with the law understand that they should comply with the law.	By analyzing the overloaded data with time and location information, some kind of characteristics might be clarified.	It is expected to confirm the performance of the operation company whether proper O&M is made or not.	
4	Analysis method	By plotting obtained data, the characteristics or trend of the overloading will be analyzed. The using data will be number of Overloaded Vehicles (OLV), percentage of Overloaded Vehicles (OLV), decree of overloading and vehicle class or number of axles will be utilized. Analysis method will be assumed autocorrelation by selecting related parameters.	Analysis of effective enforcement will be considered. For ex. making a line graph between imposed amount of fine and bill issuing ratio of the fine, then analyze the characteristics of it.	Making a list of two times or more times overloaded vehicles from the past data, then identify the driver and owner of the vehicle for further steps.	Making a dot diagram, bar chart or others between overloaded vehicles ratio/number and location/time/day of week/seasons etc., for checking characteristics or relation.	Unannounced inspection would be executed for checking the data and collected fines.	
4a	Sample Figures to see the Trend	 Num. of OLV for each num. of Axles Overloaded Degree	 Amount of Fine and Bill Issuing Ratio		 % of OLV for each day of Week		
5	Effectiveness of Data Analysis (Sample use case of data analysis)	Analysis result of overloaded vehicles percentage will be utilized for referring to the relation between deterioration ratio of pavement (PSI or IRI) and overloaded truck ratio, and it will be checked with the actual PSI or IRI then can be estimated next intervention timing of the pavement rehabilitation.  Figure 11: Pavement Rehabilitation Strategy Over 20 Years It can be utilized for better regulation on overloading.	It would be expected for effective and better enforcement method for the overloaded vehicles. The target is "Exclusion of overloaded freight vehicles from roads and highways", NOT to collect more fines.	To contribute to appropriate enforcement measures by understanding the frequent overloaded drivers and/or owners of the freight vehicle.	If there is a characteristic of location, additional station or redeployment of the station could be considered. If there is a characteristic of time, appropriate equipment maintenance timing could be considered.	It becomes possible to eliminate an operation company that performs inappropriate operations.	

Annexure 5
Report & Checklist sample for Service Provider

Required Information to be Included in Monthly Management Report

The reporting item of monthly management report (Details) as sample is shown below:

General Information

In this part, addressee, name of ALCS, location of ALCS and reporting month shall be included at least.

Name of ALCS: ******** (Road Name, CH *** + *** km)**
Period: dd/mm/yyyy hh:mm:ss – dd/mm/yyyy hh:mm:ss
Division Office Name:
Name of Executive Engineer:

1. Summarized Traffic and Overloaded Data

In this part, the number of passing vehicles of ALCS, number of SSWIM measured vehicles and number of overloaded vehicles shall be reported in each freight vehicle type. For overloaded vehicles, maximum overloaded case, and its percentage against allowable limit for each freight vehicle type is also included.

Summarized Traffic & Overloaded Vehicle Data during (month and year)

No.	Freight Vehicle Type	Num. of Passing Vehicles of ALCS	Num. of SSWIM measured Vehicle	Num. of Overloaded Vehicles	Allowable Limit (t)	Maximum overloaded case (t)	Max. Overloaded case (%)
1	2A (10-12t)*				13		
2	2B (12-14t)*				16		
3	2C (14-15t)*				22		
4	3				30		
5	4				40		
6	5				47		
7	6				49		
8	7				52		
	Total				—	—	—

Note: Laden Weight

2. Summarized Amount of Fine and its breakdown

In this part, total amount of fine and its breakdown shall be reported in each freight vehicle type. The amount paid by cash and amount by issuing bill also shall be included.

Summarized Amount of Fine and its breakdown

No.	Freight Vehicle Type	Num. of overloaded Vehicles	Amount of fine	Collected Fine by cash	Amount by issuing bill
1	2A (10-12t)*				
2	2B (12-14t)*				

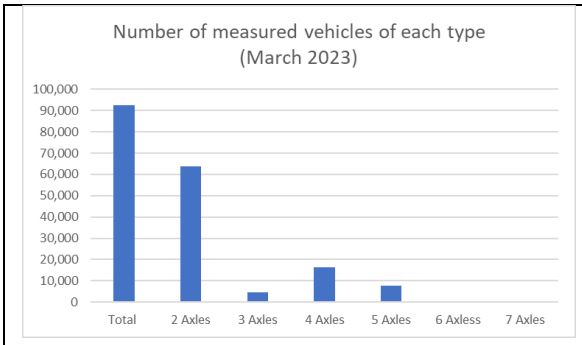
3	2C (14-15t)*				
4	3				
5	4				
6	5				
7	6				
8	7				
	Total				

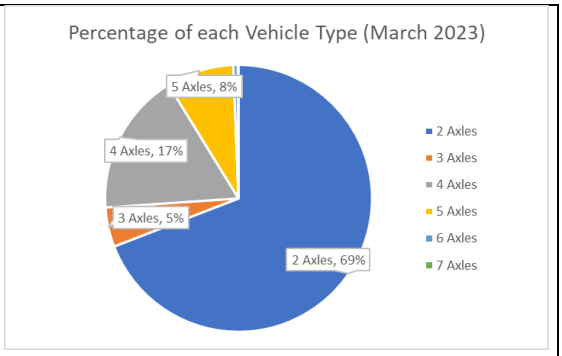
3. Daily Traffic Data and chart

In this part, the number of passing vehicles of ALCS shall be reported in each freight vehicle type every day. The chart for it shall also be included.

Daily Traffic Data during (month and year)

Vehicle Type / Date	Total	2A	2B	2C	3	4	5	6	7	Others
1										
2										
3										
4										
5										
6										
7										
:										
:										
:										
26										
27										
28										
29										
30										
31										
Num. of Passing Vehicles of ALCS										



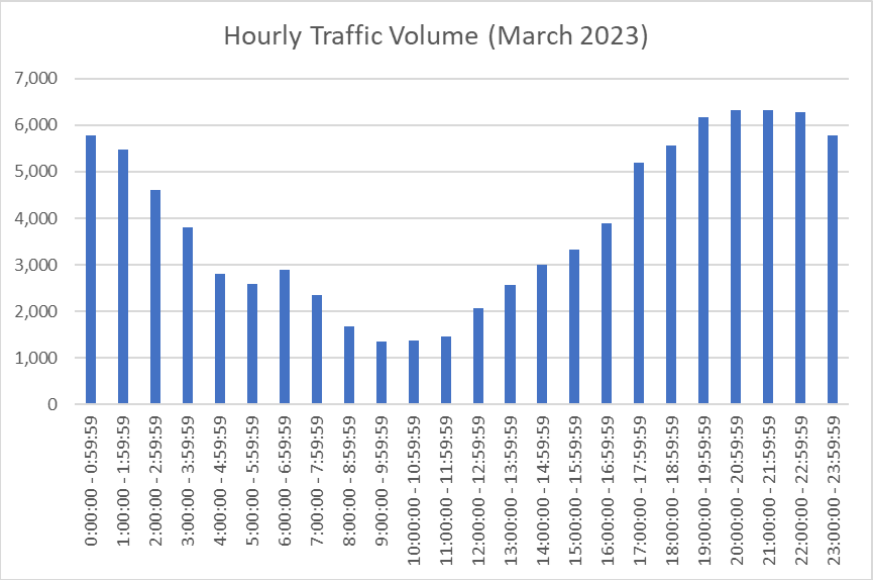


4. Hourly Traffic Data and chart

In this part, the number of passing vehicles of ALCS shall be reported in each freight vehicle type on every hourly basis. The chart for it shall also be included.

Hourly Traffic Data during (month and year)

Vehicle Type / Time	Total	2A	2B	2C	3	4	5	6	7	Others
0:00:00 – 0:59:59										
1:00 – 1:59:59										
2:00 – 2:59:59										
3:00 – 3:59:59										
4:00 – 4:59:59										
5:00 – 5:59:59										
6:00 – 6:59:59										
7:00 – 7:59:59										
8:00 – 8:59:59										
9:00 – 9:59:59										
10:00 – 10:59:59										
11:00 – 11:59:59										
12:00 – 12:59:59										
13:00 – 13:59:59										
14:00 – 14:59:59										
15:00 – 15:59:59										
16:00 – 16:59:59										
17:00 – 17:59:59										
18:00 – 18:59:59										
19:00 – 19:59:59										
20:00 – 20:59:59										
21:00 – 21:59:59										
22:00 – 22:59:59										
23:00 – 23:59:59										
Num. of Passing Vehicles of ALCS										

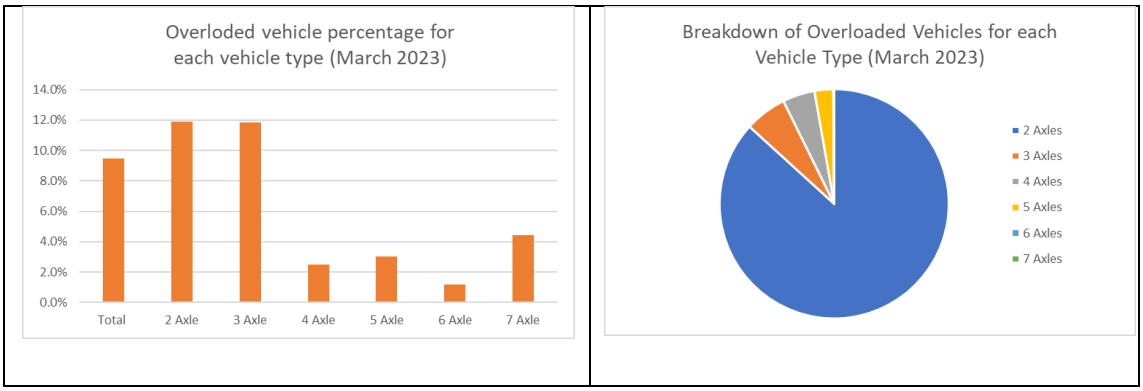


5. Daily Overloaded Vehicle Data and chart

In this part, the number of overloaded vehicles of ALCS shall be reported in each freight vehicle type every day. The chart for it shall also be included.

Daily Overloaded Vehicle Data during (month and year)

Vehicle Type Date	Total	2A	2B	2C	3	4	5	6	7	Others
1										
2										
3										
4										
5										
6										
7										
:										
:										
:										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Overloaded Vehicles										

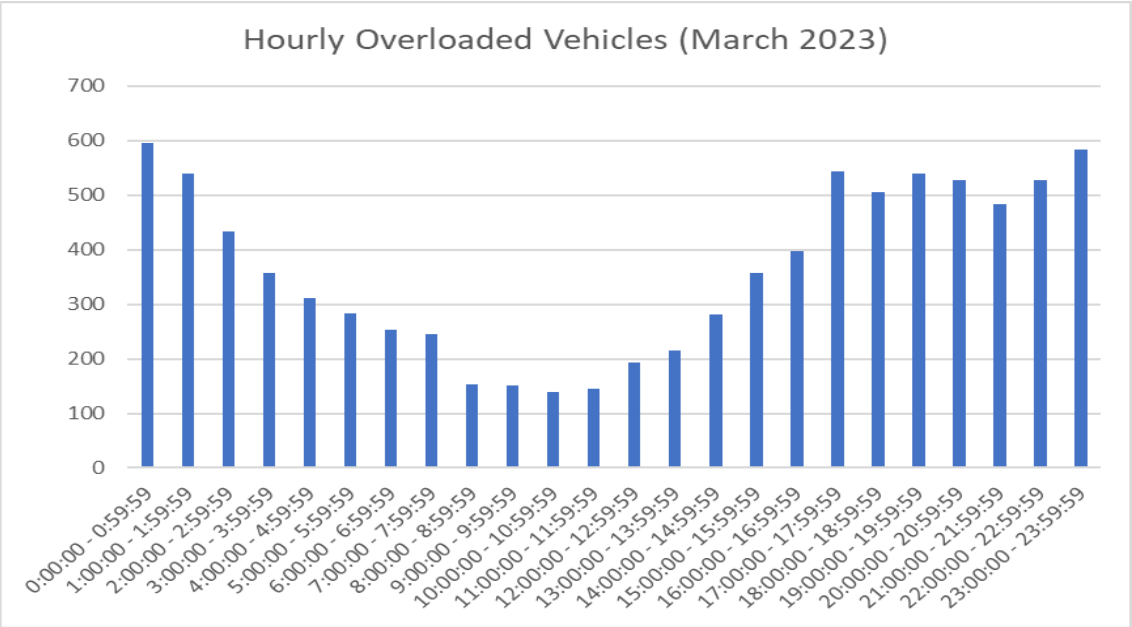


6. Hourly Overloaded Vehicle Data and chart

In this part, the number of overloaded vehicles of ALCS shall be reported in each freight vehicle type on every hourly basis. The chart for it shall also be included.

Hourly Overloaded Vehicle Data during (month and year)

Vehicle Type / Time	Total	2A	2B	2C	3	4	5	6	7	Others
0:00:00 – 0:59:59										
1:00 – 1:59:59										
2:00 – 2:59:59										
3:00 – 3:59:59										
4:00 – 4:59:59										
5:00 – 5:59:59										
6:00 – 6:59:59										
7:00 – 7:59:59										
8:00 – 8:59:59										
9:00 – 9:59:59										
10:00 – 10:59:59										
11:00 – 11:59:59										
12:00 – 12:59:59										
13:00 – 13:59:59										
14:00 – 14:59:59										
15:00 – 15:59:59										
16:00 – 16:59:59										
17:00 – 17:59:59										
18:00 – 18:59:59										
19:00 – 19:59:59										
20:00 – 20:59:59										
21:00 – 21:59:59										
22:00 – 22:59:59										
23:00 – 23:59:59										
Overloaded Vehicles										



7. Degree of overloading data and chart

In this part, maximum overloaded case shall be reported by table and chart. In the chart, all overloaded vehicle's overloading degree distribution shall be described.

Degree of overloading during (month and year) for each Freight Vehicle Type

No.	Freight Vehicle Type	Allowable gross vehicle weight limit (kg)	Simple Average weight (kg)	Overload rate by simple average (%)	Standard deviation (kg)	Maximum overloaded Vehicle Weight (kg)	Max. Overloaded case (%)
1	2A (10-12t)*	13,000					
2	2B (12-14t)*	16,000					
3	2C (14-15t)*	22,000					
4	3	30,000					
5	4	40,000					
6	5	47,000					
7	6	49,000					
8	7	52,000					

8. Relation between overloading percentage and number of vehicles for each number of axles

In this part, a Heatmap of overloading degree for each freight vehicle type shall be reported. The table for the Heatmap shall be included also.

Relation between overloading percentage and number of vehicles for each number of axles

No.	Freight Vehicle Type	Less than 5%	5% or more and less than 10%	10% or more and less than 15%	15% or more and less than 20%	20% or more and less than 25%
1	2A (10-12t)*					
2	2B (12-14t)*					
3	2C (14-15t)*					
4	3					
5	4					
6	5					
7	6					
8	7					

Heatmap showing overloading rate of each vehicle type (Sample)

	Less than 5%	5% - 10%	10%-15%	15%-20%	20%-25%	25%-30%	30%-35%	35%-40%	40% or more
2 Axles	99.65%	0.22%	0.08%	0.00%	0.02%	0.00%	0.01%	0.01%	0.01%
3 Axles	18.95%	12.73%	13.58%	19.01%	22.45%	12.13%	1.09%	0.00%	0.06%
4 Axles	68.18%	24.42%	7.03%	0.37%	0.00%	0.00%	0.00%	0.00%	0.00%
5 Axles	99.32%	0.00%	0.00%	0.00%	0.34%	0.00%	0.00%	0.34%	0.00%
6 Axles	60.00%	10.00%	0.00%	10.00%	0.00%	0.00%	0.00%	10.00%	10.00%
7 Axles	12.50%	15.00%	7.50%	5.00%	2.50%	5.00%	2.50%	17.50%	32.50%

9. Daily basis Fine Imposition Data

In this part, fine imposition data of ALCS shall be reported in each freight vehicle type on every daily basis.

Daily basis Fine Imposition Data during (month and year)

Vehicle Type / Date	Total	2A	2B	2C	3	4	5	6	7	Others
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Sub-total of Fine										
Total amount of Fine										

10. Hourly basis Fine Imposition Data

In this part, fine imposition data of ALCS shall be reported in each freight vehicle type on every hourly basis.

Hourly basis Fine Imposition Data during (month and year)

Vehicle Type / Time	Total	2A	2B	2C	3	4	5	6	7	Others
0:00:00 – 0:59:59										
1:00 – 1:59:59										
2:00 – 2:59:59										
3:00 – 3:59:59										
4:00 – 4:59:59										
5:00 – 5:59:59										
6:00 – 6:59:59										
7:00 – 7:59:59										
8:00 – 8:59:59										
9:00 – 9:59:59										
10:00 – 10:59:59										
11:00 – 11:59:59										
12:00 – 12:59:59										
13:00 – 13:59:59										
14:00 – 14:59:59										
15:00 – 15:59:59										
16:00 – 16:59:59										
17:00 – 17:59:59										
18:00 – 18:59:59										
19:00 – 19:59:59										
20:00 – 20:59:59										
21:00 – 21:59:59										
22:00 – 22:59:59										
23:00 – 23:59:59										
Sub-total of Fine										
Total amount of Fine										

11. Deposit Report

The fine amount collected by cash shall be deposited to the designated bank account. In this part, the deposited date and amount shall be reported with the responsible accountant's name.

Deposit Report

Name of the Bank Account:

Name of the Accountant:

Date	Deposited Amount (Tk)	Date	Deposited Amount (Tk)	Date	Deposited Amount (Tk)
1		11		21	
2		12		22	
3		13		23	
4		14		24	
5		15		25	
6		16		26	
7		17		27	

8		18		28	
9		19		29	
10		20		30	
				31	
Sub-Total		Sub-Total		Sub-Total	
Total Amount (Tk)					

12. Operation Result

In this part, operation results, which can be analyzed KPI shall be reported. It shall include operation-related information and data.

Operation Result in (month and year)
Total number of HSWIM passing vehicles: _____
Total number of SSWIM passing vehicles: _____
Total operation time of all SSWIM lanes in this month: _____ hour _____ min _____ sec
Mean Time of Vehicle Passage at SSWIM: _____ min. _____ sec.

13. Operation Staff and Shift Work Record

In this part, the name list of the operation staff and shift work record shall be reported.

The information shall be confirmed with the report submitted by the service provider.

Operation Staff and Shift Work Record for (month and year).
Staff List
Manager:
Assistant Manager
Accountant:
Engineer:
Supervisor:
Booth operation staff 1:
Booth operation staff 2:
Booth operation staff 3:
Booth operation staff 4:
Booth operation staff 5:
Booth operation staff 6:
Others if any
(Please attach the shift work record for all shift workers)

Sample Checklist & Report related to Inspection, Operation and Maintenance

14. Format of Monthly Axle Load Measurement Equipment Maintenance Report

Monthly Report of Axle Load Measurement Equipment Maintenance

Name of Axle Load Control Station: RHD Zone: RHD Division: RHD Sub-Division:	Month and Year: Service Provider Name:

Date	Location	Equipment	Fault Description	Nature Of Complaint	Mode of Support	Fault Reported Date/Time	Fault Response Date/Time	Fault Reported by	Fault Resolution Date/Time	Action Taken	Action Taken By	Down Time	Final Status	Remarks

15. ALCS Daily Inspections Checklist

Ver.1.0

Submission date: _____

Location of ALCS: _____

Pass / Fail judgment

✓	Pass	△	Abnormal	X	Fail

Inspection items	Date	/	/	/	/	/	/	/
		Sun	Mon	Tue	Wed	Thu	Fri	Sat
Access road								
Weigh plate								
Vehicle separator								
Electric board display								
Gate bar operation								
Monitoring camera								
Electric board display								

Details of response

Date	Failure	Response

Inspector: _____ Signature _____

16. ALCS Monthly / Annual /Special Inspections Checklist

Date:

Location of the ALCS:

Type of Inspection

	Monthly		Annually		Temporary

Instructions and Measures

R	Replacement	C	Cleaning	D	Disassembly	V	Visual	A	Adjustment
M	Measurement	T	Tightening	F	Finger touch	O	Operation	S	Sound

Judgment

✓	Good	△	Abnormal	X	Failure

Inspection part	No.	Inspection contents/details	Mon.	Ann.	Jud.
Detection unit	1	Check for damage to outer frame, loading plate, and junction box	V		
	2	Confirmation of surface wear	V		
	3	Check for gaps and damage at joints between outer frame and road surface	M		
	4	Cleaning inside the detection device		C	
	5	Unit testing and replacement of load cells		D/M	
	6	Measure insulation resistance and confirm, it is within the specified value.		M	
	7	Inspection, cleaning, and adjustment of mounting bolts and loading plates	C/A		
	8	Check for cable damage	V/R		
	9	Check for internal rusting, corrosion, damage, and sediment		V/C	
	10	Check mounting brackets falling off, loosening, breaking, rusting, corrosion by knocking or shaking.	F/T		
	11	Check for cracks, damage, rusting and corrosion of mounting structures	V		
Indicating control unit	12	Check and adjustment of display, switches, etc.	V/A		
	13	Check and record on the operation monitor screen by connecting the regulator.	V/O		
	14	Checking and adjusting calibration equipment	V/A		
	15	Confirmation and adjustment of each setting value	V/A		
	16	Check operation of printer control unit	O		
	17	Measure insulation resistance and confirm that it is within the specified value.		M	

	18	Cleaning, inspection, and adjustment of connections such as circuit boards and terminals		C/A	
	19	Check for battery malfunctions	V/M		
	20	Replacement of batteries		R	
	21	Replacement of defective parts	R		
Printer device	22	Check for deformation and damage	V		
	23	Checking and adjustment of indicator lights and switches	V/A		
	24	Confirmation of printing status	O		
Warning Sign Board	25	Check for deformation, damage and stains	V		
	26	Check the lighting of the display	V		
	27	Check the warning sound	O/S		
	28	Check mounting brackets falling off, loosening, breaking, rusting, corrosion by knocking or shaking.	T/F		
	29	Check for cracks, damage, rusting and corrosion of mounting structures	V		
Total operation	30	Total operation	O		

Details of response

No.	Failure / Problem	Response / Measures / Remarks

Inspector: Signature

Responsible person: Signature

17. Inspection and Maintenance Record

Date	Type of maintenance			Location	Equipment Name	Description	Reported Date/Time	Completion Date/Time	Remarks / Action Taken
	Inspection	Repair	Calibration						

18. Failure and Repair Record

Ver.1.0

Location of the ALCS:

Date and time of the defect:

Date and time of the completion:

1. Failure equipment and location

2. Failure condition

Attached photo: Yes / No

3. Estimated factors or causes

4. Failure Countermeasures

Attached photo: Yes / No

5. Improvements to be expected

Repair person: Signature

Responsible person: Signature

19. Equipment History Record File

Ver.1.0

RHD Equipment number	

1. Equipment information

Name	
Manufacture	
Model	
Serial number	

2. Attached documents

Document	Attachment	Remarks (if attachment is No)
Specification	Yes / No	
Contract document	Yes / No	
Warranty document	Yes / No	
Catalog	Yes / No	
Others		

3. Upgrade / Renewal information

Installation date	
Manufacture	
Model	
Serial number	

4. Attached documents

Document	Attachment	Remarks (if attachment is No)
Specification	Yes / No	
Contract document	Yes / No	
Warranty document	Yes / No	
Catalog	Yes / No	
Others		

Responsible person: Signature

20. Format of Axle load Database System Equipment Hardware device Daily inspection Check sheet and record

Axle load Database system equipment
Hardware device Daily inspection Check sheet and record

ALCS Name:

1. Daily Inspection check sheet

Date	Appearance Inspection	LED Status	Cable connection	Electricity outlet	Other Remarks
1	☐	☐	☐	☐	
2	☐	☐	☐	☐	
3	☐	☐	☐	☐	
4	☐	☐	☐	☐	
5	☐	☐	☐	☐	
6	☐	☐	☐	☐	
7	☐	☐	☐	☐	
8	☐	☐	☐	☐	
9	☐	☐	☐	☐	
10	☐	☐	☐	☐	
11	☐	☐	☐	☐	
12	☐	☐	☐	☐	
13	☐	☐	☐	☐	
14	☐	☐	☐	☐	
15	☐	☐	☐	☐	
16	☐	☐	☐	☐	
17	☐	☐	☐	☐	
18	☐	☐	☐	☐	
19	☐	☐	☐	☐	
20	☐	☐	☐	☐	
21	☐	☐	☐	☐	
22	☐	☐	☐	☐	
23	☐	☐	☐	☐	
24	☐	☐	☐	☐	
25	☐	☐	☐	☐	
26	☐	☐	☐	☐	
27	☐	☐	☐	☐	
28	☐	☐	☐	☐	
29	☐	☐	☐	☐	
30	☐	☐	☐	☐	
31	☐	☐	☐	☐	

2. Daily Inspection record

Date	Appearance	LED Status	Cable	Electricity	Reason of fail and

	Inspection		connection	outlet	conducted solution
1	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
2	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
3	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
4	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
5	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
6	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
7	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
8	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
9	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
10	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
11	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
12	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
13	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
14	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
15	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
16	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
17	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
18	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
19	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
20	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
21	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
22	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
23	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
24	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
25	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
26	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
27	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
28	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
29	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
30	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
31	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	

21. Format of Monthly Axle load Database System Equipment Maintenance Report

Axle load Database system equipment
Monthly report

1. General Information

Name of ALCS: RHD Zone: RHD Division: RHD Sub-division:	Month, Year: Service provider name:

2. Hardware device Monthly inspection Check sheet

Monthly inspection items	Action	Check
Appearance Inspection status	Visual confirmation of Hardware device appearance	☐
LED Status	Visual confirmation of LED display status	☐
Cable connection status	Visual confirmation cable connection	☐
Electricity outlet status	Visual confirmation electricity outlet status	☐
Status of CPU	Conduct “top” command	☐
Status of Memory	Conduct “free -m” command	☐
Status of storage	Conduct “df -h” command	☐

3. Hardware device Monthly inspection record

Monthly inspection items	Result	Reason of Fail, Conducted solution
Appearance Inspection status	Pass/Fail	
LED Status	Pass/Fail	
Cable connection status	Pass/Fail	
Electricity outlet status	Pass/Fail	
Status of CPU	Pass/Fail	
Status of Memory	Pass/Fail	
Status of storage	Pass/Fail	

4. Hardware device annual inspection record *

Device procured date	Inspection date	Spent time from procurement
DD/MM/YYYY	DD/MM/YYYY	YY year and MM month

5. Hardware device periodically maintenance check sheet

Maintenance items	Action	Check
Cleaning on Hardware device surface.	Cleaning of FUN duct, Interface of cable.	☐
		☐

6. Hardware device periodically maintenance report

Maintenance items	Result	Reason of Fail, Conducted solution
Cleaning on Hardware device surface.	Pass/Fail	

7. Software/system periodically maintenance Check sheet

Monthly inspection items	Action	Check
System update	Conduct command operation to system update. "apt-get update" and "apt-get upgrade" for Debian linux. "yum -y update" for Redhat linux OS	☐
Configure service	Check service status of each server computer. Conduct commend operation "systemctl -t service"	☐

8. Software/system periodically maintenance record

Maintenance items	Result	Reason of Fail, Conducted solution
System update	Pass/Fail	
Configure service		

9. Record format for other inspection, maintenance

・ Conducted items (Choose and circled items)

- Hardware device Emergency Inspection, Hardware device maintenance and repair,
- Software/system Adaptive maintenance, Emergency maintenance, Repair maintenance, perfective maintenance.

・ Date and time of conduct:

・ Conductor name:

- Maintenance and repair check sheet

Maintenance items	Action	Check
		☐
		☐

Result of maintenance and repair

* Service provider fill in 9. only month that conducted Hardware device Emergency Inspection, Hardware device maintenance and repair, Software/system Adaptive maintenance, Emergency maintenance, Repair maintenance, perfective maintenance.

22. Axle load database system equipment Maintenance conduct plan

Axle load database system equipment
Maintenance conduct plan

1. General Information

Name of ALCS: RHD Zone: RHD Division: RHD Sub-division:	Month, Year: Service provider name:

2. Maintenance type (Choose and circled item)
Hardware device maintenance and repair, Software/system repair maintenance

3. Maintenance conduct plan

- Title of conduct maintenance:

- Conduct Date and time:
  Start Date and time:
  Complete Date and time:

- Name or Team of conductor:
  AAAA (Team leader)
  BBBB (Sub-team leader)
  CCCC (Operator)
  DDDD (Record manager, Schedule keeper)
  EEEE (Point of contact)

- Target device, Software:

- Overview of maintenance work:

- Stoppage or effect for device/system
  Cause of stoppage: Yes or No
  Stoppage effect for device system detail:

- Conduct permission:

23. Axle load database system equipment Maintenance work process chart

Axle load database system equipment
Maintenance work process chart

1. General Information

Name of ALCS: RHD Zone: RHD Division: RHD Sub-division:	Month, Year: Service provider name:

2. Maintenance type (Choose and circled item)
Hardware device maintenance and repair, Software/system repair maintenance

3. Title of conduct maintenance:

4. Conduct Date and time:
- Start Date and time:
- Complete Date and time:
-

5. Work process chart

No	Work item	Start time	End time	Conductor name
1				
2				
3				
4				

Annexure 6

List of ALCS under RHD

List of Axle Load Control Stations Of Roads and Highways Department (RHD)					
Sl. No.		**ALCS Name**	**Direction/Bound**	**Road Division**	**ALCS Type**
1	**28 ALCS under GoB Project and Cross Border Project**	Boro Daroagrhut, (Sitakunda) -1	Dhaka Bound	Chattogram	Type-I
2		Boro Daroagrhut, (Sitakunda) -2	Chattogram Bound		
3		Keranirhat, (Dohazari)-1	Dhaka Bound	Chattogram South	
4		Keranirhat, (Dohazari)-2	Cox'x Bazar Bound		
5		Trishal (Mymensingh)	Dhaka Bound	Mymensigh	
6		Boro Isapur, (Tangail)	Tangail Bound	Tangail	
7		Shimultola, (Sherpur)	Nakla Bound	Sherpur	
8		Belonia, (Feni)	Belonia Bound	Feni	
9		Gobrakura (Mymensingh)	Mymensingh Bound	Mymensigh	
10		Sutarkandi, (Sylhet) -1	Sutarkandi Port Bound	Sylhet	
11		Sutarkandi, (Sylhet) - 2	Sylhet Bound		
12		Jagadispur, (Habiganj)	Dhaka Bound	Habiganj	
13		Mainamoti, (Cumilla) -1	Sylhet Bound	Cumilla	
14		Mainamoti, (Cumilla) -1	Cumilla Bound		
15		Foujdarhut, (Connecting point of Port Access Road)	Chattogram Bound	Chattogram	
16		Salna, (Gazipur) -1	Dhaka Bound	Gazipur	
17		Gorgoria, Masterbari, (Gazipur) -2	Mymensingh Bound		
18		Darsana, (Chuadanga) -1	Chuadanga Bound	Chuadanga	
19		Darsana, (Chuadanga) -2	Darsana Bound		
20		Bhojonpur, (Panchgarh)	Panchgarh Bound	Panchgarh	
21		Koyelabari, (Chapai Nawabganj)	Chapai Nawabganj Bound	Chapai Nawabganj	
22		Vomra, (Satkhira)	Satkhira Bound	Satkhira	
23		Rampal, (Bagerhut)	Khulna Bound	Bagerhut	
24		Kajirhat, (Nilphamari) -1	Saidpur Bound	Nilphamari	
25		Kajirhat, (Nilphamari) -2	Nilphamari Bound		
26		Tura, Rajibpur, (Kurigram)	Jamalpur Bound	Kurigram	
27		Hili, (Dinajpur)		Dinajpur	
28		Bhanga, (Madaripur)	Dhaka Bound	Faridpur	
29		Benapole	Jashore Bound	Jashore	
30		Ramgarh	Feni Bound'	Khaghrachari	
31	**Existing/Running ALCS**	Meghna Toll Plaza	Chattogram Bound	Narayanganj	Type-II
32		Daudkandi Toll Plaza	Dhaka Bound		
33		Sitakunda-1	Chattogram Bound	Chattogram	Type-II
34		Sitakunda-2	Dhaka Bound		
35		Bathuli	Dhaka Bound	Manikganj	Type-I
36		Charsindur Toll Plaza	Both Bound	Narsingdi	Type-II
37		Payra Bridge	Patuakhali Bound	Patuakhali	Type IV
38		Payra Bridge	Barishal Bound		Type IV
39		Ghorashal Bridge		Narsingdi	Type-II
40		Bhairab Bridge			
41	**ALCS Constructed under Others Projects/Division**	Bholaganj (Sylhet)	Sylhet Bound	Sylhet	Type-I
42		Lamakaji (Sylhet)	Sylhet Bound	Sylhet	Type-I
43		Raniganj (Sunamganj)		Sunamganj	Type IV
44		Jaria (Netrokona)	Netrokona Bound	Netrokona	Type-I
45		Islampur (Rangpur)	Dhaka Bound	SASEC-II	Type-III
46		Senahat Bridge		Kurigram	Type-I
47		Panguchi Bridge		Bagherhat	Type IV
48		Badaghat (Sylhet)	Sylhet Bound	Sylhet	Proposed
49		Bagher Bazar (Sylhet)		Sylhet	Proposed
50		Akhaura Land Port-1	Brahmanbaria Bound	Brahmanbaria	Proposed
51		Akhaura Land Port-2	Brahmanbaria Bound		Proposed