

Mission Report - AVIS

Vehicle inspection and approval in Cameroon

Mission from 21 to 25 October 2019

Assessment Vehicle Inspection Systems

BY 

10 February 2020

Written by:

Abdelilah Khalifi

Consultant, abdelilah.khalifi@yahoo.fr

Damien Subit

Consultant, da.subit@gmail.com

Vladut Sogodel

CITA Executive, v.sogodel@citainsp.org

Coordination:

Eduard Fernández

CITA, e.fernandez@citainsp.org



Table of contents

Executive summary	4
Résumé analytique	7
1 Introduction and context of the study.....	10
2 Current situation of vehicle inspection and approval in Cameroon.....	12
2.1 Initial assumptions.....	12
2.2 Status of Cameroon's fleet of vehicles	12
2.2.1 <i>Data on the fleet</i>	12
2.3 Current system for vehicle approval.....	18
2.3.1 <i>References to legal texts</i>	18
2.3.2 <i>Procedure</i>	18
2.3.3 <i>Strengths in the implementation of the vehicle approval procedure</i>	19
2.3.4 <i>Weak points in the implementation of the vehicle approval procedure</i>	19
2.3.5 <i>Analysis of the regulatory framework for vehicle approvals</i>	20
2.4 Current vehicle inspection system.....	27
2.4.1 <i>References to legal texts</i>	27
2.4.2 <i>Authorised Vehicle Inspection Centres</i>	27
2.4.3 <i>Strengths in the implementation of the vehicle inspection procedure</i>	31
2.4.4 <i>Weak points in the implementation of the vehicle inspection procedure</i>	31
2.4.5 <i>Analysis of the regulatory framework for vehicle inspection</i>	32
2.4.6 <i>Organisation and management of the sector</i>	36
3 Proposed system for vehicle approval	38
3.1 Objectives	38
3.2 Implementation approach.....	38
4 Proposal for a vehicle inspection system.....	40
4.1 Objectives	40
4.2 Implementation approach.....	41
4.3 Implementation of a new reference system for vehicle inspection	41
4.3.1 <i>Authorisation to conduct vehicle inspections</i>	42
4.3.2 <i>Human resources and competencies</i>	43
4.3.3 <i>Network management of the sector</i>	44
4.3.4 <i>Regulation and development of the sector</i>	46
4.4 Vehicle inspection thresholds.....	46
5 Projected impact of the reform	47
6 Evaluation of the project to upgrade the regulatory and organisational frameworks	48
6.1 Overall legal framework relating to vehicle inspection and approval.....	48
6.2 Vehicle approval.....	48
6.3 Vehicle inspection	49

List of tables

Table 1 – Number of registered vehicles by fuel type	12
Table 2 – Number of registered vehicles by age	13
Table 3 – Number of vehicles registered by region and fuel type.....	14
Table 4 – Number of registered vehicles by region.....	16
Table 5 – Breakdown of registered vehicles by region and age	16
Table 6 – List of Vehicle Inspection Centres (source: Department of Road Transport).....	28
Table 7 - Number and type of vehicle inspection lines by location in Cameroon, 2019 (source: Status appraisal conducted by Prooftag CATIS SA, 2019)	29
Table 8 – Summary of actions to be implemented to upgrade vehicle approvals.....	38
Table 9 – Example of the authorisation categories of vehicle inspection centres.....	43
Table 10 – Example of durations of vehicle inspections by vehicle and line.	45

List of figures

Figure 1 – Number of countries that have observed a change in the number of road traffic deaths between 2013 and 2018, by income category* (source: Global Status Report on Road Safety 2018)	10
Figure 2 – Distribution of vehicle fleet by fuel type	13
Figure 3 – Distribution of vehicles by age	14
Figure 4 – Distribution of vehicle fleet by region.....	15
Figure 5 – Hierarchical organisation of the legal corpus.	25
Figure 6 – Proposed positioning of approved private entity.	26
Figure 7 – Location of vehicle inspection centres and population distribution in Cameroon (sources: for vehicle inspection centres – audit by Prooftag CATIS; for population distribution – Cameroon Institute of Statistics).	30
Figure 8 – Denomination of the regions of Cameroon. (Source: Cameroon Institute of Statistics, Cameroon Statistical Yearbook, 2013)	30
Figure 9 – Visits to three Vehicle Inspection Centres in Yaoundé.....	31
Figure 10 – Hierarchical organisation of the legal corpus.	35
Figure 11 – The current organisation of vehicle inspection.	36
Figure 12 – Suggested approach for the implementation of the proposed approval system.	38
Figure 13 – Implementation approach for upgrading vehicle inspection.	41
Figure 14 – Structure of the new reference system for vehicle inspection	41
Figure 15 – Mechanism for upgrading vehicle inspection.....	42
Figure 16 – Hierarchical organisation of the legal corpus.	44

Executive summary

The AVIS project – "Assessment of Vehicle Inspection Systems" – in Cameroon was initiated within the framework of the collaboration between the GRSF (Global Road Safety Facility) of the World Bank and CITA (International Motor Vehicle Inspection Committee) with a view to upgrading vehicle inspections. The main objective is to identify systems for vehicle inspection and approval and to propose an improvement strategy to make vehicles safer and travel more efficient. The global objective of AVIS is to conduct this study in three African countries. Cameroon, through its Ministry of Transport, has confirmed its interest in taking part in this diagnostic project with the support of CITA and the World Bank.

Several videoconferences were required before launching the study in Cameroon; these laid the ground for the mission that took place in Yaoundé in October 2019. This mission facilitated meetings with stakeholders and the gathering of available data in order to draw up a statement of the current situation. During the mission, meetings were held with public and private entities involved in the management of vehicles and road safety in Cameroon (Minister of Transport, Department of Road Transport, representatives of the police and gendarmerie, the association of operators of vehicle inspection centres, etc.).

Cameroon is a Central African country with an area of 475,440 km² and a population of 25 million (2018). Cameroon is a member of CEMAC (Economic and Monetary Community of Central Africa), and shares a unified regulatory framework with CEMAC members. The societal cost of road accidents in Cameroon was USD 8.5 million in 2016. If population growth and the significant rate of increase in the number of registered vehicles are taken into account, this figure is now likely to be much higher. The consequences of road accidents are doubly harmful, both in social and economic terms.

Structuring and reinforcing the culture of approval

It is obligatory for vehicles to be approved before they can be used on Cameroonian roads. The various ministries and government departments (transport, customs, police, etc.) are stakeholders in this mission. The approval process includes a pre-approval phase based on an application dossier, particularly for vehicle dealers, which facilitates type approval. However, the system is not very restrictive, as only 14% of imported vehicles of four or more wheels are under 5 years old. Two-wheeled vehicles (motorcycles and mopeds) account for a large proportion of vehicles (43%), and represent the majority of recent vehicles (under 5 years old). The approval procedure is largely outsourced, but the various specifications and service levels of these activities are not sufficiently formalised. Consequently, the absence of a formal frame of reference makes it difficult for the State to audit and control these activities.

A vehicle inspection scheme that is structured and operating but inefficient

Light vehicles and heavy goods vehicles are subject to regular, obligatory inspections. A network of 40 vehicle inspection centres exist around the country. Several private operators own and manage these inspection centres. The conditions for setting up and operating these centres are documented in the relevant specifications. The project to open a vehicle inspection centre is subject to obtaining a provisional one-year authorisation which allows construction and installation work to begin, followed by the issue of a final approval on the basis of acceptance of the centre once construction is completed and the equipment is in place, but before the start of operations. The professional body – Association des Sociétés Agréées pour le Contrôle Technique au Cameroun, ASACTC [Cameroon Association of Approved Vehicle Inspection Companies] – represents the operators of vehicle inspection centres.

However, several weaknesses have been noted in vehicle inspection activities:

- The reliability of the vehicles evaluated during inspections is not guaranteed: the inspection may be impaired due to faulty or non-calibrated equipment, a lack of skills among technicians or reporting errors in the case of non-automated measurements. These problems are mainly the consequence of the lack of a clear, exhaustive procedure in the specifications for the inspection of vehicles, including a definition of acceptability thresholds. There is also non-respect of the specifications of vehicle inspection centres which include, for example, the requirement for measurement equipment to be network connected. Furthermore, there may be gaps in the specification, for example regarding requirements relating to the qualification and training of vehicle inspection centre technicians and personnel,
- The lack of security regarding vehicle inspection certificates and stickers: cases of falsification of these documents, as well as the complacent issue of certificates, have been reported. The state subcontracts the printing of vehicle inspection stickers but there is no system to ensure traceability. At present the centres are not accountable for the use of stickers. Moreover, light vehicles and heavy goods vehicles use the same stickers; cases of the incorrect use of a light vehicle sticker for a heavy goods vehicle have come to light,
- The insufficiency or even absence of roadside checks, despite the willingness of the police and gendarmerie,
- The absence of sanctions and corrective measures: two recent audits of vehicle inspection centres revealed multiple irregularities, but none were followed up by sanctions, corrective actions or compliance obligations,
- An incomplete frame of reference. The current frame of reference does not include requirements in terms of: training and staff skill levels, the procedures to be followed in the event of faulty equipment on an inspection line, the need to calibrate equipment, the systematic audit requirements of the Ministry of Transport, inspectors' liability, etc. In certain cases, the existing frames of reference are not respected (specifications for vehicle inspection centres), and furthermore, vehicle inspection centres all have different designs and performance levels.

An inappropriate legal framework, undefined procedures, unclearly expressed equipment and skills requirements

The current legal corpus and the prevailing reference system do not sufficiently define the responsibilities and missions of the various actors for appropriate vehicle inspections and approvals. The system is therefore not uniform and the standardisation of activities and procedures as well as the overall level of results are negatively affected.

A strong political will

It should be noted that there is a clear political will to upgrade vehicle inspection and enhance performance in order to improve road safety and develop the vehicle maintenance sector in economic terms. The current project to set up a system to secure physical documents (stickers and certifications) and conduct administrative monitoring via a single computer network shows the Ministry of Transport's willingness to improve the management of vehicle inspection and to use it as a tool to oversee the quality of the fleet of vehicles in the country.

Conclusions about the current situation

- There is a lack of a comprehensive technical reference system to ensure vehicle safety and reduce polluting emissions both in terms of vehicle inspections and approvals. Thus no guarantees can be given for vehicles, neither upon their import nor during their life cycle on public roads;
- The regulatory, organisational and legal corpus is very lightweight and cannot guarantee the efficiency, uniformity, equity and transparency of the vehicle inspection system;

- The system for monitoring, auditing and managing activities needs to be restructured, strengthened and formalised if the upgrade is to be maintained once implemented. The complexity of the current system, with several vehicle inspection operators, creates a significant demand for government monitoring and management;
- In both quantitative and qualitative terms, the current skills do not allow the provision of good services in line with the expected vehicle safety and environmental protection standards.

Recommendations

An analysis of the situation clearly shows that vehicle inspection and approval procedures in Cameroon can be improved on the basis of the regulatory and operational culture developed by the Ministry of Transport, by means of:

1. Establishing a reference system to set requirements for vehicles entering the country, and for the maintenance of vehicles in good mechanical condition once in the country. It would be desirable if the criteria used were those defined in international conventions such as the 1958 United Nations Agreement,
2. The establishment of a legal, regulatory and organisational framework capable of ensuring a healthy environment and a comprehensive structure for the exercise of the various professions required for vehicle inspections and approvals. The missions of the various actors would then be well defined with a clear, realistic vision of the way forward.
3. Strengthening the administration's capacity to formalise the activities of vehicle inspection centres and ensure the compliance of operators with administration guidelines. The administration needs to equip itself and use regulatory tools in order to establish acceptable thresholds and in this way encourage an improvement in the quality of the fleet of vehicles while taking into account Cameroon's economic reality,
4. The development of reference systems for those involved in vehicle inspections and approvals in order to ensure transparency in the exercise of activities and the precise definition of the required skill levels and the method of maintaining qualifications,
5. The standardisation of inspection centre procedures and operations. Both the documented differences between vehicle inspection centres, and the incorrect functioning of measurement equipment discovered in several centres, adversely affect the overall quality of vehicle inspections,
6. The correspondence of Cameroonian regulations with international (Geneva Agreement) and regional (CEMAC) texts on vehicle inspection and approval. It is particularly important to ensure the consistency of Cameroonian vehicle inspection requirements with those of neighbouring countries.

Résumé analytique

Le projet AVIS – « Assessment of Vehicle Inspection Systems » ou « Diagnostic des systèmes d'inspections des véhicules » – au Cameroun a été initié dans le cadre de la collaboration entre le GRSF (Global Road Safety Facility) de la Banque Mondiale et CITA (Comité International d'Inspection des véhicules Automobiles) pour la mise à niveau du contrôle technique des véhicules. L'objectif principal est de diagnostiquer les systèmes de réception et du contrôle technique des véhicules, et de proposer une stratégie d'amélioration en vue de rendre les véhicules plus sûrs et les déplacements plus efficaces. L'objectif global d'AVIS est de mener cette étude dans trois pays africains, et le Cameroun, via son ministère des transports, a confirmé son intérêt pour réaliser ce travail de diagnostic avec l'accompagnement du CITA et de la Banque Mondiale.

La mise en œuvre de l'étude au Cameroun a nécessité plusieurs vidéoconférences pour la préparation de la mission qui s'est déroulée à Yaoundé en octobre 2019. Cette mission a permis de rencontrer les parties prenantes et de récupérer les données disponibles pour la réalisation de l'état des lieux. Des réunions avec les entités publiques et privées impliquées dans la gestion des véhicules et de la sécurité routière au Cameroun (Ministre des Transports, Direction des Transports Routiers, représentants de la police et de la gendarmerie, l'association des opérateurs des centres de contrôle technique, ...) ont été tenues lors de la mission.

Le Cameroun est un pays d'Afrique centrale de 475 440 km² qui compte 25 millions d'habitants (2018). Il est en particulier membre de la CEMAC (Communauté Economique et Monétaire d'Afrique Centrale), et partage un socle réglementaire unifié au sein de la CEMAC. Pour l'année 2016, le coût sociétal des accidents de la route au Cameroun était de 8,5 millions USD. Compte tenu de l'augmentation démographique et du rythme de croissance important du nombre de véhicules immatriculés, ce chiffre est actuellement beaucoup plus élevé. Les conséquences des accidents de la route sont donc doublement néfastes, tant sur le plan social que sur le plan économique.

Une culture de l'homologation à structurer et renforcer

L'homologation des véhicules avant qu'ils ne puissent être utilisés sur les routes camerounaises est obligatoire, et les différents ministères et services du gouvernement (transports, douanes, police, ...) sont parties prenantes dans cette mission. Le processus d'homologation intègre une phase de pré-homologation sur dossier, en particulier pour les concessionnaires, ce qui permet de faciliter l'homologation par type. Le système est cependant peu restrictif, puisque seulement 14 % des véhicules 4 roues et plus importés ont moins de 5 ans d'âge. Les véhicules 2 roues (motocycles et cyclomoteurs) représentent une grosse part du parc (43 %), et représentent la majorité des véhicules récents (de moins de 5 ans). La procédure d'homologation est largement externalisée, mais les différents cahiers des charges et niveaux de service de ces activités ne sont pas suffisamment formalisés. Ainsi, l'absence de cadre de référence formel rend difficile l'audit et le contrôle de ces activités par l'Etat.

Un contrôle technique opérationnel et structuré, mais peu efficace

Les véhicules légers et poids lourds font l'objet d'un contrôle technique régulier et obligatoire. Un nombre important de 40 centres de visite technique existe et couvre tout le pays. Plusieurs opérateurs privés possèdent et gèrent ces centres. Les conditions d'installation et d'opération des centres sont explicitées dans un cahier des charges. Le projet d'ouverture d'un centre de contrôle technique est soumis à l'obtention d'un agrément provisoire d'un an à partir duquel les travaux de construction et d'installation peuvent commencer, suivi par la délivrance d'un agrément définitif sur la base d'une réception du centre une fois la construction terminée, les équipements mis en place et avant le début des opérations. Une association professionnelle (l'ASACTC, l'Association des Sociétés Agréées pour le Contrôle Technique au Cameroun) rassemble les opérateurs de centres de contrôle technique.

Cependant, plusieurs faiblesses ont été relevées dans l'activité de contrôle technique :

- La fiabilité des véhicules évalués lors de la visite technique n'est pas assurée : l'opération de contrôle est rendue inefficace du fait d'équipements défectueux ou non calibrés, d'un manque de compétences des techniciens, et d'erreurs de report d'information dans le cas de mesure non-automatisées. Ces problèmes sont principalement la conséquence de l'absence dans le cahier des charges d'une procédure claire et exhaustive pour le contrôle des véhicules avec définition des seuils d'acceptabilité, du non-respect du cahier des charges des centres de visites techniques qui intègre par exemple l'exigence de connectivité des équipements de mesure, ou de l'absence dans ce cahier des charges, par exemple des exigences relatives à la qualification et la formation des techniciens et personnels des centres de contrôle technique,
- Le manque de sécurisation des certificats et vignettes de contrôle technique : des cas de falsification de ces documents, ainsi que de délivrance de certificat de complaisance ont été rapportés. L'état sous-traite l'impression des vignettes de contrôle technique mais un système de traçabilité fait défaut et à ce jour les centres n'ont pas à rendre de compte de l'utilisation des vignettes. De plus, véhicules légers et poids lourds ont les mêmes vignettes, et des cas d'utilisation erronée de vignette pour véhicules légers sur des poids lourds ont été mentionnés,
- L'insuffisance voire l'absence de contrôle sur route, malgré la volonté des services de gendarmerie et de police,
- L'absence de mise en la place de sanctions et de mesures correctives : deux audits récents des centres de contrôle technique ont montré de multiples irrégularités, mais aucun n'a été suivi de sanctions, de mise en place d'actions correctives ou d'obligation de mise en conformité,
- Un cadre de référence incomplet : le cadre de référence actuel n'intègre pas les exigences de formation et de niveau de compétence des personnels, les procédures à suivre en cas d'équipements défectueux sur une ligne de contrôle, le besoin de calibration des équipements, les exigences d'audit systématique par le ministère des transports, la responsabilité des contrôleurs, ... Dans certains cas, les cadres de référence existent mais ne sont pas respectés (cahier des charges des centres de contrôle technique), aussi les centres de contrôle techniques sont de conception et performance inhomogènes.

Un cadre juridique inapproprié, des procédures non définies, des exigences en matière d'équipements et de compétences non clairement exprimées

Le corpus juridique actuel et le référentiel en vigueur ne permettent pas de définir aux différents acteurs leurs responsabilités et missions pour une réception et un contrôle technique des véhicules appropriés. Le système est alors dépourvu de l'unicité et de la standardisation des activités et des procédures et le niveau global des résultats s'en trouve en conséquence négativement affecté.

Une forte volonté politique

Il est à noter la présence claire d'une forte volonté politique de mettre à niveau le contrôle technique et d'améliorer ses performances pour augmenter le niveau de sécurité sur les routes et développer le secteur économique de l'entretien des véhicules. Le projet en cours pour mettre en place un système de sécurisation des documents physiques (vignettes et certifications) et le suivi administratif via un réseau informatique unique montre la volonté du ministère des transports à assainir la gestion du contrôle technique et à l'utiliser comme outil de pilotage de la qualité du parc automobile.

Conclusions de la situation actuelle

- Absence de référentiel technique exhaustif pour assurer la sécurité des véhicules et la réduction des émissions polluantes tant au niveau de la réception que pour le contrôle technique des véhicules. Aucune garantie n'est donc assurée ni à l'introduction sur le territoire ni durant le cycle de vie en exploitation sur la voie publique ;

- Le corpus légal, réglementaire et organisationnel est très léger pour garantir l'efficacité, l'unicité, l'équité et la transparence du système de réception et de contrôle technique des véhicules
- Le système de surveillance, d'audit et de pilotage des activités nécessite d'être restructuré, renforcé et formalisé pour la pérennité de la mise à niveau une fois mise en place ;
- Les compétences actuelles ne permettent pas tant sur le plan quantitatif que qualitatif d'assurer de bonnes prestations conformes au standard de sécurité des véhicules et de protection de l'environnement escomptés.

Recommandations :

Au vu du diagnostic, il est clair que les performances des procédures d'homologation et de contrôle technique peuvent être améliorées au Cameroun, en s'appuyant sur la culture réglementaire et opérationnelle que le ministère des transports a développée par :

7. La mise en place d'un référentiel permettant de fixer des exigences pour les véhicules entrant dans le pays, et pour leur maintien dans de bonnes conditions mécaniques une fois entrés dans le pays. Il serait souhaitable que les critères utilisés soient ceux définis dans des conventions internationales telles que l'Accord de 1958 des Nations Unies,
8. La mise en place d'un cadre légal, réglementaire et organisationnel à même d'assurer un environnement sain et un cadre exhaustif pour l'exercice des différents métiers afférents à la réception et au contrôle technique des véhicules. Les missions des différents acteurs seraient alors bien définies avec une vision d'évolution claire et réaliste.
9. Le renforcement des capacités de l'administration pour formaliser les activités des centres de visite technique et assurer la conformité des opérateurs avec les orientations décidées par l'administration. L'administration a besoin de s'équiper et d'utiliser les outils réglementaires afin de fixer les seuils acceptables et ainsi piloter la montée en qualité du parc automobile en prenant en compte la réalité économique du Cameroun,
10. Le développement de référentiels afférant à chacun des acteurs de l'homologation ou du contrôle technique pour assurer la transparence dans l'exercice des activités et la définition précise des niveaux de compétences exigés et le mode de maintien des qualifications.,
11. L'homogénéisation des procédures et des opérations des centres de contrôle. Les différences documentées entre centres de contrôle technique, et le fonctionnement incorrect des équipements de mesure relevés dans plusieurs centres nuisent à la qualité globale du contrôle technique,
12. L'articulation des règlements camerounais avec les textes internationaux (convention de Genève) et régionaux (CEMAC), pour l'homologation et le contrôle technique. Il est en particulier important d'assurer la cohérence des exigences de contrôle technique au Cameroun vis-à-vis des pays limitrophes.

1 Introduction and context of the study

The Global Plan for the Decade of Action for Road Safety 2011-2020¹ defined a strategy for reducing road traffic accidents and their consequences at a global level, in particular by setting the target of halving the number of deaths around the world due to road traffic accidents. Since 2016, it has been evident that the efforts made to reduce the number of road fatalities would be insufficient to achieve the target. Among the reasons given are that the growing world population and the rapid increase in the number of motor vehicles during the period of implementation of safety measures has limited the impact of the latter. It is striking to note that no low-income countries recorded a drop in the number of road traffic deaths between 2013 and 2018 (the date of the latest World Health Organization report on global road safety), and that the majority of middle-income countries (including Cameroon) have witnessed a stagnation or increase in the number of road traffic fatalities (Figure 1).

Figure 1 – Number of countries that have observed a change in the number of road traffic deaths between 2013 and 2018, by income category* (source: Global Status Report on Road Safety 2018)



* This data refers to countries that have experienced a change in the number of deaths since 2013 of over 2% and excludes countries with populations under 200,000. Income levels are based on World Bank classifications for 2017.

While there are international regulations to facilitate the sharing of best practices, many countries do not yet apply these practices. Certain socio-economic characteristics, particularly for low-income countries, are clearly barriers to the implementation of some regulations: for example, the compulsory wearing of seat belts for front and rear passengers requires vehicles that are approved on the roads of a country to be (i) equipped with these safety systems, and (ii) for these systems to be operational. Consequently, the definition of a technical reference system for vehicle inspection and approval makes it possible, firstly, to ensure a minimum level of reliability for vehicles approved on the roads of a country at the time of their entry into that country and, secondly, to ensure that vehicles retain these minimum qualities throughout the period of their use. The societal cost of road accidents in Cameroon was USD 8.5 million in 2016. If population growth and the significant rate of increase in the number of registered vehicles are taken into account, this figure is now likely to be much higher. The consequences of road accidents are not only social in nature, but also economic.

Vehicle inspection and approval procedures are complex; they involve many stakeholders and impose additional costs on many of these parties; air quality and road safety considerations must also be considered. Nevertheless, professional organisations such as CITA (International Motor Vehicle Inspection Committee) have shown that these measures play a vital role in reducing accidents.² CITA is

¹ https://www.who.int/roadsafety/decade_of_action/plan/english_global_plan.pdf

² Contribution by the Spanish Technical Vehicle Inspectorate (ITV) to the 2012 Road Safety Report. ISVA. no. <http://www.aeca-itv.com/Publicaciones/Contribucion%20ITV%20seg.%20vial-2012.pdf> "Why Roadworthiness Regulation in Europe is not efficient. The case of N1-vehicles in Belgium". http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2601305

an international non-profit association, the objective of which is to collaborate to improve road safety and reduce the impact of road transport on the environment by ensuring the compliance of vehicles throughout their life cycles. CITA members are mainly organisations linked to state authorities, vehicle inspection bodies, vehicle operators and manufacturers of vehicle inspection equipment.

The World Bank's GRSF and CITA have agreed to collaborate to formalise and improve vehicle compliance and monitoring procedures. In order to achieve this, they have committed to pursuing projects known as AVIS - "Assessment of Vehicle Inspection Systems".

The global objective of the AVIS projects is to carry out audits of vehicle inspection systems in various countries in sub-Saharan Africa. Cameroon is the second country to benefit from such an audit. The first study in Togo allowed a methodology to be established that improved upon and confirmed the benefit of the project. The objective of the AVIS Cameroon project is to adapt the methodology developed for Togo to the specific case of Cameroon in terms of:

1. documenting the current practices of the vehicle approval and inspection systems,
2. making specific recommendations in the context of Cameroon in order to improve the manner in which inspection and approval programmes contribute to the country's overall capacity to manage the development of road infrastructures and improve road safety performance as well as achieving other public policy objectives,
3. advocating a global programme to reinforce capacities in order to implement recommendations.

The audit thus comprises two parts, one covering the inspection of vehicles in circulation and the other covering the approval of vehicles entering the fleet of registered vehicles for the first time, whether through manufacture, modification, return to use or importation. Recommendations are made to allow the country's capacities to be reinforced.

The consultants responsible for the implementation of the project in Cameroon are Abdellilah Khalifi, mechanical engineer and Damien Subit, PhD in mechanical engineering and transport safety. They were assisted by Eduard Fernandez, Executive Director of CITA, and Vladut Sogodel, Senior Project Manager.

Mr Khalifi was responsible, within the Moroccan government agency CNEH (National Centre for Testing and Approval) for the definition, implementation and management of the vehicle inspection and approval system in Morocco. Dr Subit is a specialist in road safety and biomechanics and has worked, among other places, at the École Nationale Supérieure des Arts et Métiers (France), the Center for Applied Biomechanics at the University of Virginia (USA) and the Laboratoire de Biomécanique Appliquée – INRETS (France). He has led several international research projects in conjunction with the automotive industry and government organisations, and participated in several regulatory working groups.

This report presents the results of the audit in three parts:

1. Report on the current situation of vehicle inspections and approvals,
2. Proposal for an approach to upgrade vehicle approvals,
3. Proposal for an approach to upgrade vehicle inspections,

We would like to acknowledge the logistical and organisational support of the Department of Road Transport of the Ministry of Transport of the Government of Cameroon, as well as the help afforded by many parties by meeting us and providing the data necessary to draw up the report.

European Commission. 13.7.2012 SWD (2012) 206 Final. Roadworthiness Package. Commission Staff Working Paper. Impact Assessment. [http://ec.europa.eu/transport/road_safety/pdf/road_worthiness_package/impact_assessment\(IA\)_en.pdf](http://ec.europa.eu/transport/road_safety/pdf/road_worthiness_package/impact_assessment(IA)_en.pdf)
"The effect of vehicle roadworthiness on crash incidence and severity"
http://www.monash.edu/_data/assets/pdf_file/0017/216710/muarc164.pdf

2 Current situation of vehicle inspection and approval in Cameroon

2.1 Initial assumptions

By the end of our mission in Yaoundé from 21-25 October 2019, we had collected a wealth of data and documents; this has been used to draw up this report. The reports of meetings and interviews are provided in Annex 1 (separate file).

However, this information is not sufficient to provide an exhaustive, reliable description of the situation regarding vehicle inspection and approval in Cameroon. Indeed, in order to have a comprehensive picture and to be able to deduce the precise, quantitative measures required in order to upgrade the system, it would be necessary to collect the following data from Cameroon:

- Detailed information on the fleet of vehicles by category and type, as well as by age, region and location;
- The status of vehicle approvals by category and type of authorised vehicle, number of inspections performed, type of approvals issued, information on approvals including duration, data retrieved and mode of operation;
- The status of vehicle inspection, including details on approved centres, operational lines, number and skills of active inspectors, vehicle inspections carried out and the rejection rates per category of vehicle and per centre over recent years, brands, dates of acquisition of equipment and its suitability for connection, configurations of the centres with layouts, dimensions, locations and site plans in relation to public roads;
- Etc.

As a result, we have worked with the available data and made assumptions where necessary.

2.2 Status of Cameroon's fleet of vehicles

The fleet grew from 210,000 vehicles in 2010 to 675,000 vehicles in 2014. It has therefore tripled in under five years (EPSR Cameroon).

Between 2014 and 2017, motorbikes represented approximately 43% of all registered vehicles (2018 Transport Statistical Yearbook).

2.2.1 Data on the fleet

Vehicle registrations from 2014 to 2017 allow the vehicle fleet to be categorised by fuel type (Table 1, Figure 2). All data relating to the vehicle fleet has been taken from the 2018 edition of the transport statistics yearbook, pages 41 to 47.

Table 1 – Number of registered vehicles by fuel type

Fuel type	2014	2015	2016	2017	Total over four years by fuel type
Petrol	70,623	76,827	83,191	74,391	305,032
Diesel	16,874	18,468	16,897	16,744	68,983
Other	2,076	2,314	1,632	1,224	7,246
Total	89,573	97,609	101,720	92,379	381,281

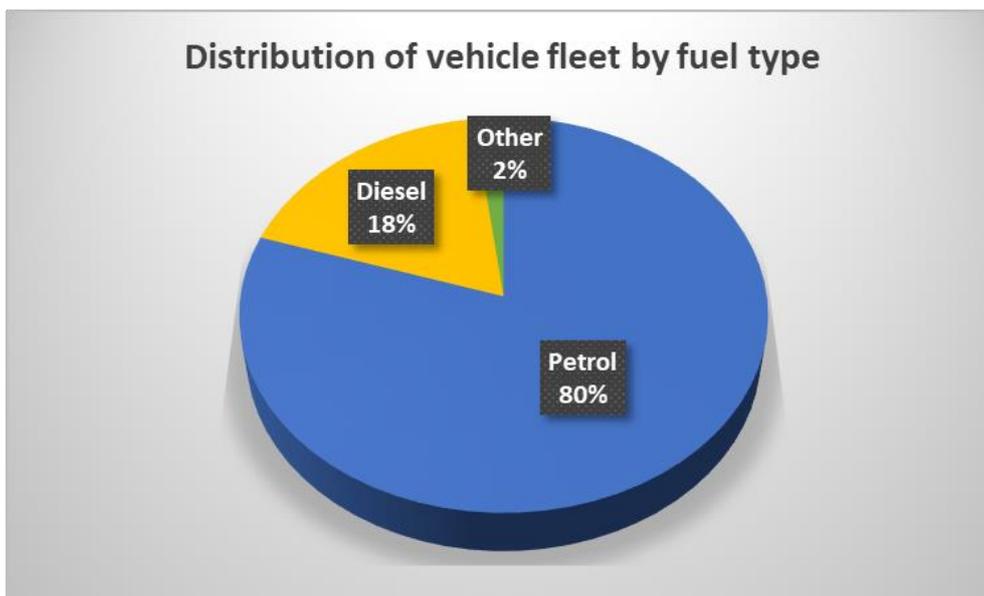


Figure 2 – Distribution of vehicle fleet by fuel type

Given the large numbers of motorbikes and mopeds used in Cameroon, the proportion of vehicles using petrol as a fuel is very high (Table 2). It is possible to estimate the distribution of vehicles by age from the relevant registration information (Figure 3).

Table 2 – Number of registered vehicles by age

Age	2014	2015	2016	2017	Total over four years by age
Under 1 year	48,406	48,928	53,175	35,391	185,900
1-5 years	4,450	6,256	6,206	12,362	29,274
5-10 years	3,132	3,745	3,562	2,762	13,201
10-15 years	10,962	11,555	10,856	9,565	42,938
15-20 years	13,288	15,711	15,837	17,921	62,757
20 years and over	9,314	11,409	12,084	14,378	47,185
Total	89,573	97,609	101,720	92,379	381,281

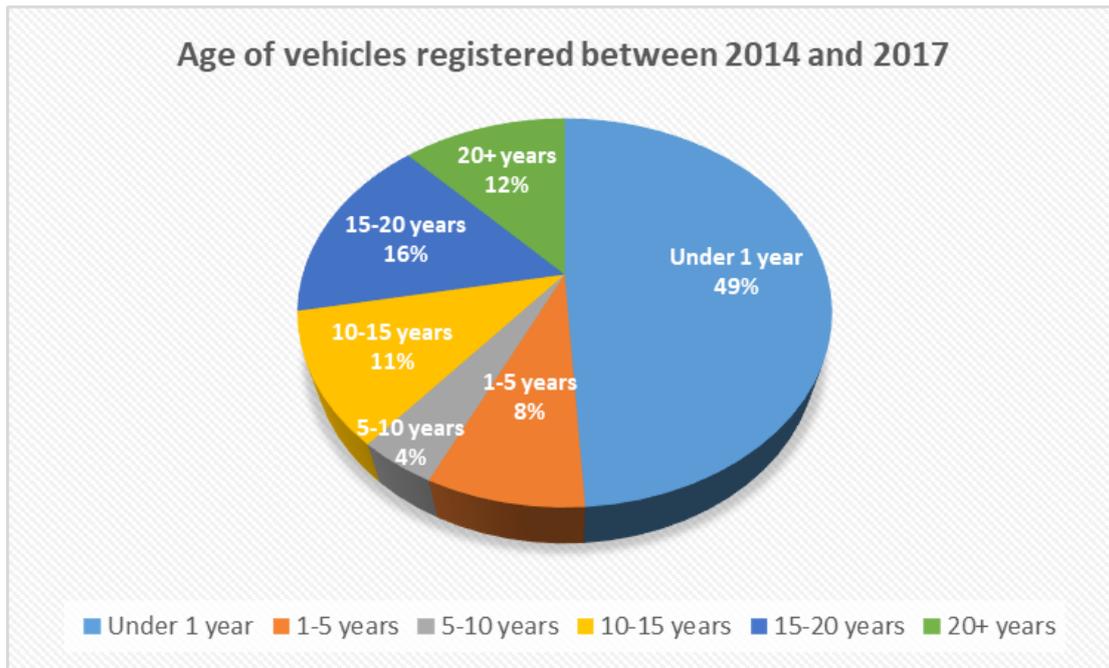


Figure 3 – Distribution of vehicles by age

It should be noted that motorbikes and mopeds account for 43% of vehicles and considerably reduce the average age of the registered fleet; this category of vehicle is aged between 0 and 5 years old upon registration.

Therefore, if 57% of the fleet is under 5 years old, and 43% of the fleet are motorbikes or mopeds, this means that only 14% of the fleet are other vehicles under 5 years old and 43% are other vehicles over 5 years old.

Table 3 – Number of vehicles registered by region and fuel type
(this page and following page)

Region	2014	2015	2016	2017
Adamaoua	2,965	3,297	4,548	2,863
Petrol	2,350	2,713	4,154	2,561
Diesel	449	436	332	283
Other	166	148	62	19
Centre	24,696	25,858	27,388	29,252
Petrol	18,597	19,982	22,167	23,134
Diesel	5,914	5,686	5,125	6,045
Other	185	190	96	73
East	3,536	2,838	2,448	2,667
Petrol	3,188	2,551	2,222	2,521
Diesel	301	263	212	139
Other	47	24	14	7
Far North	7,031	7,420	6,894	3,572
Petrol	6,763	7,079	6,600	3,264
Diesel	233	285	268	299
Other	35	56	26	9

Region	2014	2015	2016	2017
Littoral	27,110	30,403	32,435	32,602
Petrol	18,045	19,937	23,069	23,344
Diesel	7,573	8,721	8,097	8,203
Other	1,492	1,745	1,269	1,055
North	6,186	8,026	8,252	6,591
Petrol	5,706	7,456	7,730	6,242
Diesel	413	479	487	312
Other	67	91	35	37
North West	3,128	5,048	6,854	5,530
Petrol	2,174	3,781	5,789	5,085
Diesel	949	1,253	1,050	445
Other	5	14	15	
West	7,928	7,680	6,487	4,620
Petrol	7,513	7,141	6,038	4,299
Diesel	404	527	435	318
Other	11	12	14	3
South West	4,278	5,613	5,289	3,464
Petrol	3,810	4,997	4,592	3,127
Diesel	452	597	609	331
Other	16	19	88	6
South	2,715	1,426	1,125	1,218
Petrol	2,477	1,190	830	814
Diesel	186	221	282	369
Other	52	15	13	35
Total	89,573	97,609	101,720	92,379

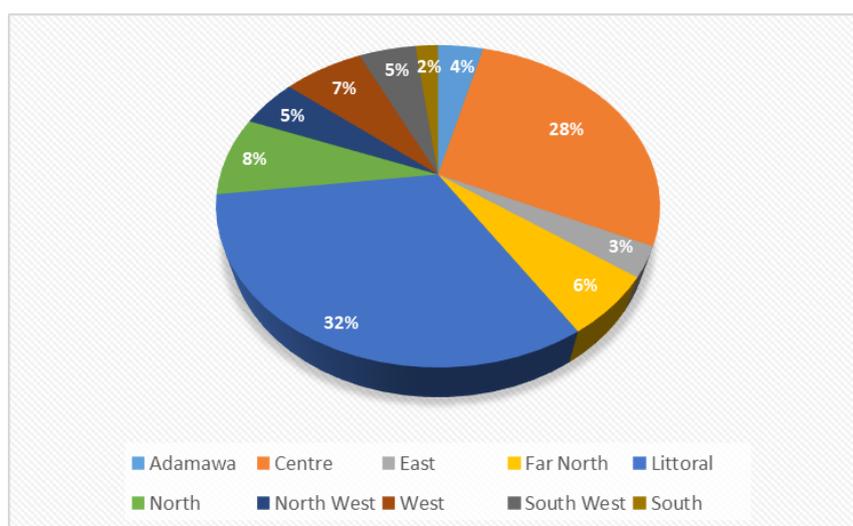


Figure 4 – Distribution of vehicle fleet by region

It is clear that 60% of the fleet is located in the regions of the centre (Yaoundé) and the littoral (Douala)(Table 4 and Table 5).

Table 4 – Number of registered vehicles by region

Region	2014	2015	2016	2017
Adamoua	2,964	3,297	4,548	2,863
Centre	24,690	25,858	27,388	29,252
East	3,533	2,837	2,448	2,667
Far North	7,031	7,420	6,894	3,572
Littoral	27,105	30,401	32,435	32,602
North	6,185	8,026	8,252	6,591
North West	3,127	5,048	6,854	5,530
West	7,926	7,679	6,487	4,620
South West	4,277	5,612	5,289	3,464
South	2,714	1,426	1,125	1,218
Total	89,552	97,604	101,720	92,379

Table 5 – Breakdown of registered vehicles by region and age
(this page and following page)

Region / Age	2014	2015	2016	2017
Adamoua	2,964	3,297	4,548	2,863
Age ≤ 1 year	1,530	1,749	2,900	1,201
1 < age ≤ 5 years	233	277	463	495
5 < age ≤ 10 years	77	91	84	81
10 < age ≤ 15 years	339	269	281	219
15 < age ≤ 20 years	536	603	470	351
Age > 20 years	249	308	350	516
Centre	24,690	25,858	27,388	29,252
Age ≤ 1 year	11,747	11,487	13,332	8,403
1 < age ≤ 5 years	719	1,321	1,021	2,913
5 < age ≤ 10 years	1,125	1,102	997	868
10 < age ≤ 15 years	3,671	3,533	3,306	3,686
15 < age ≤ 20 years	4,182	4,684	4,797	7,230
Age > 20 years	3,246	3,731	3,935	6,152
East	3,533	2,837	2,448	2,667
Age ≤ 1 year	2,559	1,983	1,660	1,270
1 < age ≤ 5 years	252	207	180	851
5 < age ≤ 10 years	38	52	39	31
10 < age ≤ 15 years	159	146	111	83
15 < age ≤ 20 years	311	239	243	160
Age > 20 years	214	210	215	272
Far North	7,031	7,420	6,894	3,572
Age ≤ 1 year	5,270	4,990	5,239	2,304
1 < age ≤ 5 years	758	1,380	509	247
5 < age ≤ 10 years	130	186	146	78
10 < age ≤ 15 years	288	258	305	294
15 < age ≤ 20 years	328	371	381	359
Age > 20 years	257	235	314	290

Region / Age	2014	2015	2016	2017
Littoral	27,105	30,401	32,435	32,602
Age ≤ 1 year	11,763	11,742	12,503	10,433
1 < age ≤ 5 years	1,047	1,324	2,420	4,057
5 < age ≤ 10 years	1,358	1,733	1,706	1,409
10 < age ≤ 15 years	4,944	5,513	5,159	4,309
15 < age ≤ 20 years	4,984	6,384	6,771	7,749
Age > 20 years	3,009	3,705	3,876	4,645
North	6,185	8,026	8,252	6,591
Age ≤ 1 year	4,506	5,548	5,760	4,323
1 < age ≤ 5 years	413	655	481	979
5 < age ≤ 10 years	164	241	261	117
10 < age ≤ 15 years	321	478	564	306
15 < age ≤ 20 years	507	723	735	360
Age > 20 years	274	381	451	506
North West	3,127	5,048	6,854	5,530
Age ≤ 1 year	385	1,660	3,797	2,937
1 < age ≤ 5 years	126	220	347	1,177
5 < age ≤ 10 years	91	142	98	33
10 < age ≤ 15 years	478	551	421	194
15 < age ≤ 20 years	1,066	1,216	1,000	521
Age > 20 years	981	1,259	1,191	668
West	7,926	7,679	6,487	4,620
Age ≤ 1 year	6,376	5,905	4,938	2,896
1 < age ≤ 5 years	524	523	460	734
5 < age ≤ 10 years	45	65	53	51
10 < age ≤ 15 years	182	196	117	106
15 < age ≤ 20 years	400	399	325	308
Age > 20 years	399	591	594	525
South West	4,277	5,612	5,289	3,464
Age ≤ 1 year	2,165	3,106	2,598	1,322
1 < age ≤ 5 years	240	262	270	741
5 < age ≤ 10 years	75	92	104	35
10 < age ≤ 15 years	422	460	441	201
15 < age ≤ 20 years	790	868	893	578
Age > 20 years	585	824	983	587
South	2,714	1,426	1,125	1,218
Age ≤ 1 year	2,105	758	448	302
1 < age ≤ 5 years	138	87	55	168
5 < age ≤ 10 years	29	41	74	59
10 < age ≤ 15 years	158	151	151	167
15 < age ≤ 20 years	184	224	222	305
Age > 20 years	100	165	175	217
Total	89,552	97,604	101,720	92,379

2.3 Current system for vehicle approval

2.3.1 References to legal texts

Vehicle approvals are currently carried out on the basis of the provisions stipulated by the following texts:

- Regulation no. 040/01 - UEAC 089 - CM - 06 Adopting the revised Community Traffic Regulations;
- Law 96/07 of 08 April 1996 on the protection of the national road infrastructure;
- Decree no. 79/341 of 3 September 1979 on the regulation of road traffic, as amended and supplemented by Decree no. 86/818 of 30 June 1986;
- Decree no. 2012/250 of 1 June 2012 on the organisation of the Ministry of Transport;
- Order no. 003959/A/MTPT of 23 July 1991 regulating the arrangement of the operation of public transport vehicles and mixed transport vehicles;
- Order no. 003960/A/MTPT 23 July 1991 establishing specifications for the lighting, signalling and braking systems of motor vehicles;
- Order no. 010/A/MINT of 23 February 1998 regulating the approval of vehicles and associated equipment;
- Order no. 009/MINT/DTT of 23 February 1998 on the regulation of the road transport of hazardous goods;
- Order no. 00947/MINT/DTT of 24 November 2000 specifying signalling systems for motor vehicles.

2.3.2 Procedure

A vehicle must be approved before it can be registered. All vehicle importers are obliged to achieve approval in accordance with the texts referred to in paragraph 2.3.1.

The Ministry of Transport approved the company Solution d'Expertise Technique SET SARL, by means of Decision no. 00001D/MINT/SG/DTR of 02 January 2019, to assist the administration in the evaluation and technical analysis of vehicles presented for approval.

This company therefore plays the role of a technical service assisting the approval authority, i.e. the Department of Road Transport.

Checks are conducted visually. A vehicle's technical characteristics are defined from the documentation presented or by observation.

The approval report describes:

- Make, kind, type and manufacturer;
- Chassis type;
- Masses and dimensions;
- Transmission;
- Engine;
- Pollution reduction system;
- Suspension;
- Brakes;
- Lighting.

The approval report corresponds to the presented prototype, quoting the VIN number.

However, we were not able to ascertain whether this report is effectively the approval certificate or whether it is the document used to draw it up.

Also, it is not clear whether the data described by the approval report would have to be maintained throughout the vehicle's life or whether, failing this, a new approval would be required.

Furthermore, the framework of the report does not correspond to the series of requirements as defined and stipulated by the CEMAC Traffic Regulations.

2.3.3 Strengths in the implementation of the vehicle approval procedure

It should be noted that all vehicles in Cameroon are obliged to gain an approval. A vehicle can only use the public highway if it has been approved.

The administration relies on external technical expertise to conduct approvals and define vehicles' technical characteristics. In this way the Department of Road Transport is clearly positioning itself as the approval authority with a supporting technical service.

Cameroonian and CEMAC regulations define several requirements for the active and passive safety of vehicles presented for approval.

2.3.4 Weak points in the implementation of the vehicle approval procedure

With the exception of two-wheeled vehicles, the fleet of vehicles in Cameroon is very old; most vehicles look very dilapidated. In fact, new vehicles only represent 5% of vehicles presented for registration each year. It is clear that the technical barriers at entry do not set out a sufficient level of requirements in terms of vehicle reliability.

Furthermore, the company authorised to carry out approval operations conducts checks without a clearly defined, agreed procedure.

We also do not know what technical tools or applications are available to this company to allow it to carry out the operations for which it is responsible.

A further issue is that the Head of the Vehicle and Road Safety Department is responsible for approvals, vehicle inspections and the safety of the road network in Cameroon. This excessive workload affects the structure in terms of its ability to carry out the assigned tasks, particularly regarding organisation, control, monitoring and development.

There is no clear procedure for vehicle approvals and the verification thresholds are only defined for a few functions, including masses and dimensions, which are decided at Community level.

There is no auditing procedure for the technical service company responsible for issuing approvals. Furthermore, qualitative and quantitative indicators have not been identified to evaluate the activity.

No pollutant emission requirements have been defined for the approval of vehicles to be registered in Cameroon.

2.3.5 Analysis of the regulatory framework for vehicle approvals

This section presents the most important tests for vehicle approvals and provides an analysis of the basic provisions in order to identify possible improvements.

A detailed analysis of the texts would be necessary to allow the regulatory and procedural base to be upgraded in order to align vehicle approvals in Cameroon with international standards.

2.3.5.1 CEMAC Traffic Regulations

Article	Requirements	Comments
Article 20: Vehicle weight limit	<p>The following standards apply:</p> <p>a) Maximum axle load for a vehicle:</p> <ul style="list-style-type: none"> - 13 tonnes for a single axle; - 21 tonnes for a tandem axle; - 27 tonnes for a tridem axle. <p>The maximum authorised laden weight shall not exceed 50 tonnes.</p>	<p>It should be noted that Cameroon imports the vehicles that circulate on its roads. It would be appropriate to adopt existing international standards for vehicle mass.</p> <p>More details are also needed to avoid confusion. For example, the details of the masses and axle types and the resulting vehicle weights should be explained.</p>
Article 22: Vehicle dimensions	<p>Except in the case of exceptional loads, the dimensions of motor vehicles or vehicle combinations, including all loads, allowed on the roads are as follows:</p> <p>1) maximum lengths (including any projections):</p> <ul style="list-style-type: none"> a) single vehicle: 12 metres; b) articulated combination: 15.50 metres; c) road train: 18 metres. <p>2) maximum width: 2.50 metres. This maximum width includes all projections (excluding mirrors, marker lamps and direction indicators).</p> <p>3) maximum height: 4 metres</p>	<p>Same comments as for the article above. As all vehicles are imported, it would be sensible to adopt internationally-accepted dimensions. For example, the width of certain categories of vehicle imported from Europe is 2.55 metres.</p>

<p>Article 23: General provisions</p>	<p>1) As far as possible, the mechanical components and equipment of motor vehicles should not entail a risk of fire or explosion.</p> <p>2) As far as possible, the high-voltage ignition system of motor vehicle engines should not cause excessive radio interference.</p> <p>3) Every motor vehicle operating on the roads of the CEMAC region must be constructed such that the driver's field of vision towards the front, right and left is sufficient to allow safe driving.</p> <p>4) Motor vehicles and trailers must not have, either internally or externally, any ornaments or other objects which present edges or projections that are not essential and may constitute a danger to the vehicle's occupants or other road users in the event of an accident.</p>	<p>All these requirements and other additional requirements relating to a vehicle's active or passive safety are defined within the scope of the reference framework that resulted from the 1958 Geneva Agreement.</p> <p>It would be advisable for Cameroon, as well as CEMAC, to adopt and ratify this Agreement in order to benefit from the exhaustive technical regulatory framework that has been developed and tested by all vehicle-producing countries, particularly in Europe.</p>
<p>Articles 24 to 48 on vehicle lighting</p>	<p>All the articles in question concern vehicle lighting.</p>	<p>The Geneva Agreement Regulations define the requirements for vehicle lighting. Regulation 48, for example, defines the compliance of vehicle installations and lighting devices.</p>
<p>Article 50: Horns</p>	<p>1) Every motor vehicle must be equipped with a horn, emitting a uniform, continuous tone.</p> <p>2) Horns may only be used:</p> <ul style="list-style-type: none"> ▪ to issue a necessary warning to other users (overtaking, approaching a junction, bend, etc.); ▪ in built-up areas, to avoid an accident; <p style="padding-left: 40px;">the sounding of a horn must not continue longer than necessary.</p> <p>3) The use of multi-tone horns, sirens and whistles is prohibited.</p> <p>4) Only priority vehicles may be fitted with the following special warning devices in addition to the standard horn:</p> <ul style="list-style-type: none"> ▪ continuous two-tone horns for ambulances and fire-fighting vehicles; ▪ sirens or two-tone horns for the emergency vehicles of the presidential security unit, police and gendarmerie. 	<p>It would be appropriate in this case to adopt United Nations Regulation 28 on motor vehicles and horns with regards to their audible signals.</p>

	5) All cycles and motorcycles must be fitted with a horn producing a tone that can be heard at a distance of at least 50 metres.	
Article 51: Seat belts	<p>1) With the exception of motorcycles, any motor vehicle with a maximum permissible weight under 3,500 kg, and having a maximum of eight seats in addition to the driver's seat, must be equipped in the front seats with automatically retractable three-point seat belts.</p> <p>2) The installation of manually adjustable, non-retractable two-point lap belts is authorised in the following cases:</p> <ul style="list-style-type: none"> ▪ the front central seat of a vehicle with three seats; ▪ the front seats of a vehicle whose bodywork does not allow the installation of three-point belts on the side pillar. <p>3) The driver and front passengers of the vehicles referred to in paragraph 1 must fasten their seat belts at all times and in all places.</p>	<ul style="list-style-type: none"> ▪ The text does not require rear seat belts nor belts for all the seats of public transport vehicles. ▪ The text does not clearly define the requirements for the anchor points of seat belts in their various arrangements. ▪ It would be appropriate to adopt Regulations 16 and 17 of the Geneva Agreement.
Articles 59 to 62: Vehicle brakes	These articles define the general framework for braking requirements.	The application of the Geneva reference framework, in particular through Regulation R13H, would ensure optimum braking in accordance with the international standard.

2.3.5.2 Law 96/07 on the protection of the national road infrastructure

Article	Content	Comments
Article 4	Article relating to vehicle dimensions and mass Similar to the data required in respect of the CEMAC Traffic Regulations.	Same comment as for articles 20 and 22 of the CEMAC Traffic Regulations.
Article 5	1) The registration of a vehicle, or permission to operate on the roads, shall be subject to prior approval or, where applicable, to recognition of compliance with a previously-approved type.	<ul style="list-style-type: none"> ▪ It should be noted that type approval must be clearly assigned to a well-defined vehicle imported by an identified dealer.

		<p>2) Individual approval may be granted for conversions of existing vehicle types and/or alterations of equipment.</p> <p>3) The terms and conditions of approval are stipulated by an order issued by the Minister of Transport.</p>	<ul style="list-style-type: none"> ▪ Any vehicle imported by another natural or legal person, even if of a previously approved type, shall be subject to a new individual approval. ▪ Individual approval shall also apply to other cases such as completed vehicles, vehicles which have been seriously damaged and repaired before returning to service, vehicles which have undergone modifications of type or genre, etc.
Chapter Sanctions	III:	Sanctions for breaches of approval regulations	It would also be essential to prohibit the sale or even the offering for sale of a vehicle that has not yet received an approval.

2.3.5.3 Order regulating the approval of vehicles and associated equipment

Article	Content	Comments
Article 1	The order regulates approval of vehicles and associated equipment.	It would be preferable to specify that the procedure defines the approval of equipment and vehicles in a comprehensive manner.
Article 3	All types of new vehicle must be approved before entering into service. Conversions of existing vehicle types are also subject to prior approval.	This article is very limited and does not define all the cases in which approval should be obligatory.
Article 5	1) The prototype or individual vehicle shall be assessed for approval purposes. This assessment consists of examining the manufactured object to identify its	It would be preferable to redefine the procedure so that it complies with the Geneva Agreement.

	<p>characteristics and determine whether it satisfies the requirements and is suitable for its intended use.</p> <p>2) The assessment carried out on a vehicle type extends to those integral parts for which it is obligatory. In special cases, vehicle accessories may be submitted to a separate assessment.</p>	
Article 6	<p>1) The approval of vehicles is carried out by the relevant services of the Ministry of Transport. However, the approval process can be confided to a duly-approved public or private technical service.</p> <p>2) When the approval is entrusted to a public service or an approved private centre, the Ministry of Transport expert must be involved in the technical phase. In all cases, the object to be approved must be presented to the expert for the verifications of standards and arrangements.</p> <p>3) The Ministry of Transport may carry out checks of the approved public or private services if this is considered appropriate.</p> <p>4) The methods of authorisation of a public or private approval service are established by the decision of the Ministry of Transport.</p>	<p>The missions of the organisations to be approved as supports to the administration must be redefined; the administration must remain the approval authority.</p> <p>However, a distinction should be made between the technical service as defined by the Geneva Agreement and a support structure which the Department of Road Transport authorises to intervene to contribute to the study of vehicle approval files.</p>
Article 7	<p>1) Officials and agents appointed by the Minister of Transport may test an individual vehicle or a prototype assessed by the technical services described in the first paragraph of article 7 above to ascertain its characteristics; the test period may not in any case exceed two (2) hours.</p> <p>2) The dealer or vehicle owner shall bear the costs of the test. These costs include fuel, lubricants and any expenses relating to the operation of the vehicle for the tests taking place within the perimeter of the area hosting the central services of the Ministry of Transport.</p> <p>3) Outside this area, other costs shall be borne by the dealer or vehicle owner.</p>	<ul style="list-style-type: none"> ▪ It would be appropriate to redefine the approval procedure depending on the nature of the approval and the category of the vehicle concerned. ▪ The acceptance or refusal of a vehicle's approval shall not be restricted to its conformity to the type defined by the manufacturer but also to the active and passive safety regulations and

	<p>4) When the vehicles inspected do not conform to the types described by the manufacturer, the approval may be refused.</p> <p>5) In all cases, the approval centre may be held liable for damage caused by vehicles the characteristics of which do not comply with the regulatory standards.</p>	<p>emission control requirements.</p>
Article 11	<p>5) Officials or agents appointed by the Minister of Transport may withdraw any vehicle from circulation in order to check its conformity with the approved type. If an inspected vehicle does not conform with the approved type, it will be prohibited from use on the roads.</p>	<ul style="list-style-type: none"> ▪ The procedure to check vehicle conformity should be defined. ▪ It is also necessary to define the competencies of the auditors responsible for overseeing compliance.

2.3.5.4 Summary

- There are many texts that concern all or part of the approval process. These need to be restructured into a framework that is coherent, comprehensive and simple to use. Consequently, it would be desirable to break down the obligation of approval and the related requirements into the following legal structure (Figure 5):

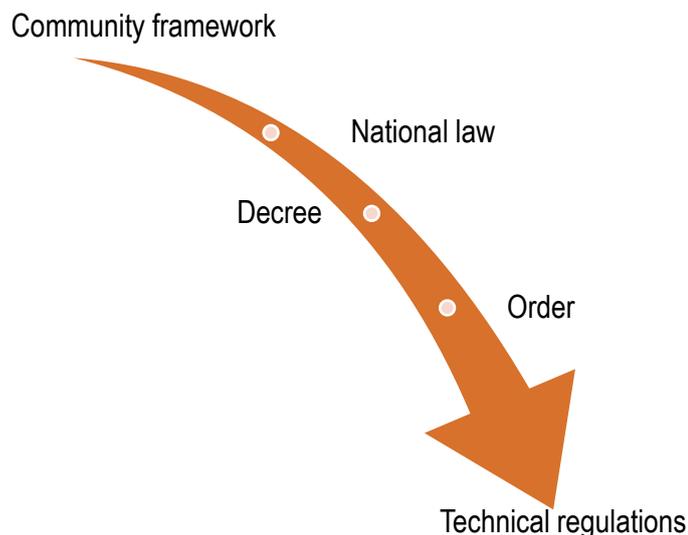


Figure 5 – Hierarchical organisation of the legal corpus.

- Updating the Community Traffic Regulations could be envisaged by aligning the requirements with the international standard, in particular regarding masses and dimensions, and the application of the Geneva Regulations to various vehicle components.

- Cameroon may adopt earlier versions of the various Geneva Regulations. The objective is to take into account the country's reality and in this way reduce the impact of the reform on very short-term economic and social plans. Gradual developments could then be introduced to eventually achieve alignment with the international standard.
- Technical barriers relating to vehicle safety should be introduced to limit the access of unreliable vehicles.
- The requirements for emission control and the standard to be adopted in this framework should be incorporated into the legal corpus.
- The various categories of vehicles are to be defined. The international reference system in this area could be adopted to allow the better management of approvals.
- The responsibilities of importers, manufacturers and developers will need to be well defined in the process of putting a vehicle into circulation. In this respect, sanctions relating to approval infringements and the method of verification could be presented in a matrix for improved transparency and greater efficiency.
- The private structure approved by the Ministry of Transport should limit its action plan to assessing the compliance of vehicles submitted for approval and proposing the decision to be taken to the Department of Road Transport. Therefore, this entity should:
 - Study the technical file of the vehicle and compare it to the country's regulatory requirements;
 - Compare the vehicle presented with the relevant technical file;
 - Draw up the draft approval certificate and present it to the Department of Road Transport in its capacity as the approval authority.

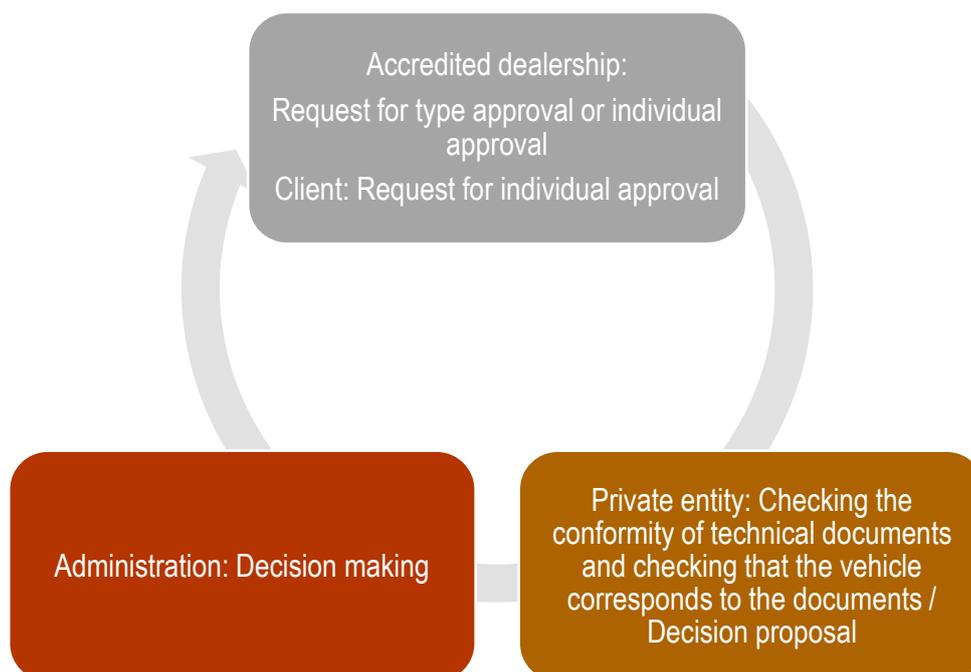


Figure 6 – Proposed positioning of approved private entity.

- The definition of the vehicle type should be very precise in Cameroon by referring to the type/variant/version in accordance with each manufacturer's reference system.
- Type approval should be granted to dealers selling vehicles that have the necessary qualifications in respect of:
 - Human resources;
 - Financial resources;
 - Material resources;

- Presence on the ground, in particular for after-sales service.
- Specifications clarifying these provisions should be introduced and communicated to all dealers. As a consequence, a type approval should be granted to a well-defined type for an established dealer.
- Approval on an individual basis should be granted for vehicles submitted separately. This should cover all situations such as:
 - Authorised significant change;
 - Change of genre;
 - Return to service after a serious accident for which the repairs have been checked;
 - New vehicle, not type-approved, or imported by a party other than the dealer that had already received type-approval;
 - Vehicle sold at auction;
 - Vehicle classified as a collector's item;
 - Etc.
 - Initial training (FI), obligatory minimum qualification training (FQIMO) and obligatory continuing training (FCO) requirements should be put in place for:
 - Those responsible for approval at administrative level;
 - The technical managers in charge of the structure(s) approved by the Department of Road Transport to study approval cases;
 - Administration managers responsible for compliance audits.

2.4 Current vehicle inspection system

2.4.1 References to legal texts

Applicable texts for vehicle inspection:

- Regulation no. 040/01 - UEAC 089 - CM - 06 Adopting the revised Community Traffic Regulations;
- Law 96/07 of 08 April 1996 on the protection of the national road infrastructure;
- Decree no. 2012/250 of 1 June 2012 on the organisation of the Ministry of Transport;
- Circular No. 88/2711/LC/MINTPT/DTT/CE2 relating to the technical inspection of imported second-hand vehicles;
- Order No. 011/a/mint of 23 February 1998 regulating the technical inspection of vehicles;
- Specifications for conducting vehicle inspections.

2.4.2 Authorised Vehicle Inspection Centres

Three sources of vehicle inspection centre evaluations were considered:

- a) The audit carried out by the Ministry of Transport (2013);
- b) The audit carried out by the company Prooftag CATIS, commissioned by the Ministry of Transport (audit conducted in 2018, report published in 2019);
- c) A list supplied by the Department of Road Transport, entitled 'Location Plan of Vehicle Inspection Centres' (Table 6).

Sources a) and b) list 27 vehicle inspection centres, while source c) lists 40, but the relevant data is not provided. Consequently, the evaluation presented here is based on sources a) and b) from which the type and number of vehicle inspection lines could be identified (Table 7).

Table 6 – List of Vehicle Inspection Centres (source: Department of Road Transport)

No.	No.	Region	Vehicle Inspection Centre	Location
1	1	Centre	WCI	MVAN
2	2		CADCIA	MVAN
3	3		NACHO	MARCHE MEDONG
4	4		SILICON	TEXACO OMNISPORTS
5	5		VITECH	EMANA
6	6		SATELLITE NGONO	CARREFOUR DU PALAIS
7	7		AUTOVISION	NKOL FOULOU
8	8		SECOMA	NKOL AFAMBA
9	1	South	CEMEX	EBOLOWA
10	2		CEMEX	KRIBI
11	3		CATES	KRIBI
12	4		SECURITEST	KRIBI
13	1	Littoral	HYDRAC	AIRPORT ZONE
14	2		WCI	AIRPORT ZONE
15	3		CADCIA	NDOG BONG
16	4		AUTOVISION	BONAMOOUSSADI
17	5		SILICON	AKWA
18	6		SATELLITE NGONO	BONABERI
19	7		GILBERT&JOSEPHINE	BONABERI
20	8		CEMEX	KOTTO
21	9		D.A.C	YASSA
22	10		AUTOVISION	YASSA
23	11		SILICON	NKONGSAMBA
24	12		SILICON	EDEA
25	1	Southwest	WCI	OUMBE
26	2		PRESTECH	KUMBA
27	3		SAPOU TRANS	MILE 2 LIMBE
28	1	West	WCI	BAFOUSSAM
29	2		DAC	BANDJOUN
30	3		OCDM&T	DSCHANG
31	4		GROUPE MAGNONG	MBOUDA
32	1	Northwest	WCI	UP STATION
33	2		NACHO	NKWEN
34	1	East	GILBERT&JOSEPHINE	BERTOUA
35	1	Far North	CADCIA	NGAOUNDERE
36	2		SATELLITE NGONO	GAROUA
37	3		ODTECHNICA	GAROUA
38	4		ODTECHNICA	GUIDER
39	5		FLISES	MAROUA
40	6		FLISES	KOUSSERI

All the other regions have vehicle inspection centres, except for Adamoua region.

Table 7 - Number and type of vehicle inspection lines by location in Cameroon, 2019 (source: Status appraisal conducted by Prooftag CATIS SA, 2019)

Region	Vehicle Inspection Centre	Number of centres	Number of light vehicle lines	Number of heavy goods vehicle lines	Number of mixed lines
Centre	Yaoundé 1st (2) Yaoundé 4th Yaoundé 6th SOA	5 or 6	11	3	4
Littoral	Douala 5th Douala 4th Douala 1st	6	10	6	
	Edéa	1	1	1	
	Nkongsamba	1			1
West	Pete	1	2	1	
South	Kribi	1	1		
	Ebolowa	1	1	1	
East	Bertoua	1	1	1	
Adamoua	Ngaoundéré	1	1	1	
North	Garoua	1	1	1	
Far North	Maroua	1	1	1	
	Kousséri	1	1	1	
Southwest	Limbé	1	1	1	
	Même	1	1	1	
Northwest	Bamenda	2	1	2	
	Total	25 or 26	34	21	5

Each vehicle inspection centre is identified by the town in which it is located and/or by the operator (e.g. VITECH Yaoundé). However, it seems that the operators or the denominations used for the vehicle inspection centres are not consistent. It is therefore difficult to cross-check information from different sources due to the varying denominations: for example, it is problematic to cross-reference information from the State for 2016 (source a)) with that from the Prooftag audit of 2019 (source b)). An identifier should be created for each centre; this would allow vehicle inspection centres to be tracked over the course of their activities.

The distribution of the 27 vehicle inspection centres is *a priori* consistent with the population distribution. All regions have at least one vehicle inspection centre. However, in less populated areas, the distance to the nearest vehicle inspection centre may be considerable. It would be beneficial to determine the location of the centres in relation to the country's fleet of vehicles, or to establish mobile vehicle inspection centres (Figure 7 and Figure 8).

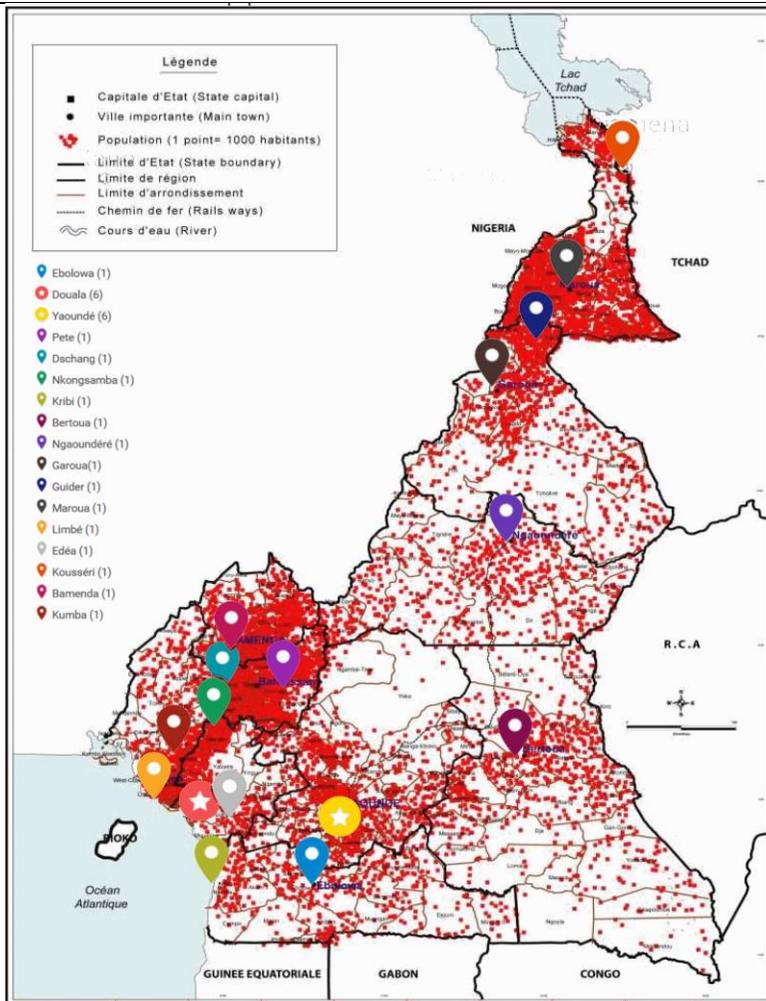


Figure 7 – Location of vehicle inspection centres and population distribution in Cameroon (sources: for vehicle inspection centres – audit by Prooftag CATIS; for population distribution – Cameroon Institute of Statistics).

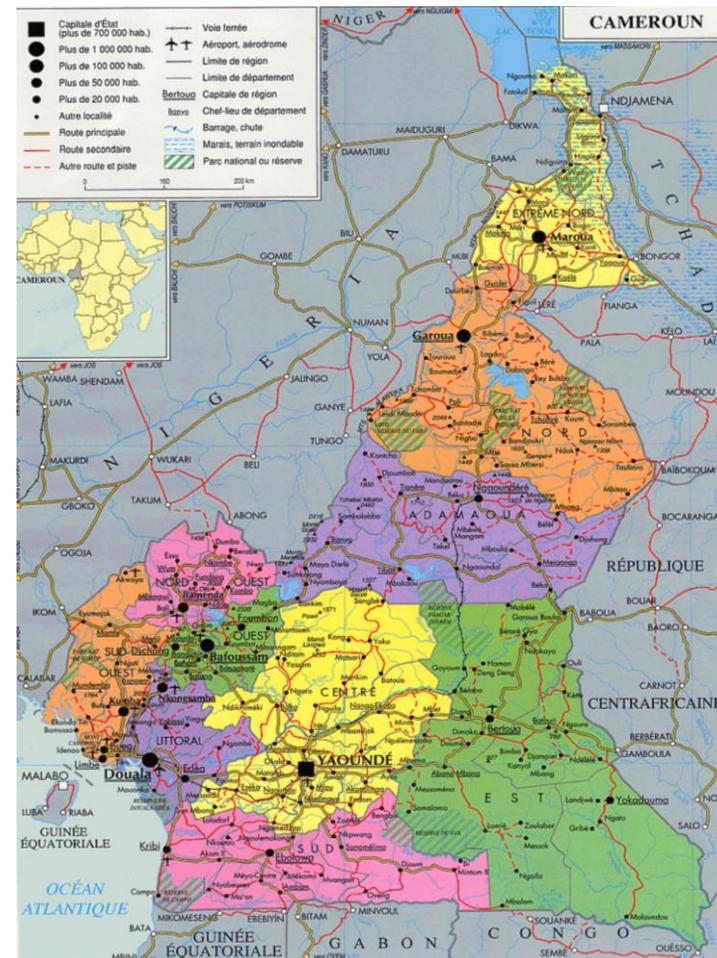


Figure 8 – Denomination of the regions of Cameroon. (Source: Cameroon Institute of Statistics, Cameroon Statistical Yearbook, 2013)

2.4.3 Strengths in the implementation of the vehicle inspection procedure

Vehicle inspection is part of the culture of road users in Cameroon. In the light of visits we made to certain centres in Yaoundé, it was very clear that the movement of vehicles through the centres confirmed the acceptance of vehicle inspection by the clients (see Annex 1) and demonstrated the presence of a sustained economic activity.



(a) Satellite Ngono Centre



(b) VITECH Centre



(c) AUTOSUR Centre

Figure 9 – Visits to three Vehicle Inspection Centres in Yaoundé

2.4.4 Weak points in the implementation of the vehicle inspection procedure

The lack of a clear procedure for vehicle inspection operations means that there are disparities between the various centres. Furthermore, there is no audit of the activity.

2.4.5 Analysis of the regulatory framework for vehicle inspection

2.4.5.1 CEMAC Traffic Regulations

Article	Content	Comments
Article 79: Obligation for regular vehicle inspection	<p>All motor vehicles, trailers of a maximum authorised weight over 750 kg, articulated lorries and motorcycles, with or without sidecars, are obliged to submit to regular vehicle inspections. This results in the issue of a technical inspection certificate showing that the vehicle is suitable for use on public roads.</p> <p>The issue of a registration document is subject to a vehicle inspection to certify that the vehicle meets the required conditions for entry into service.</p>	<p>Vehicle inspection is a general obligation for all vehicles including motorcycles, mopeds, tricycles and quadricycles.</p> <p>A vehicle must be submitted for approval before entering into service in the country for the first time. A prior vehicle inspection may be required for second-hand vehicles to be registered or approved on an individual basis.</p>
Article 80: Frequency of technical inspection	<p>The frequency of technical inspection is established as follows:</p> <ul style="list-style-type: none"> - every year for private passenger vehicles and private transport vehicles; - every year for special vehicles (mechanical and agricultural equipment and public works vehicles); - every six months for goods vehicles (lorries, vans), vehicles used to transport hazardous materials, tankers and tanker tractor vehicles, tractor units used with trailers, and other vehicles used to hitch to such trailers; - every four months for rental vehicles; - every three months for public transport vehicles; - every three months for school vehicles. 	<ul style="list-style-type: none"> ▪ The frequency could be made more explicit for mopeds, motorcycles, tricycles and quadricycles. ▪ Upgrading vehicle inspection in Cameroon would make it possible to review the frequency of inspections for commercial vehicles.
Article 83: Checks of exhaust gases	<p>Vehicles on the roads that have travelled at least 3,000 kilometres may be subject to checks to ensure that the carbon monoxide content of the exhaust gases emitted at idling speed does not exceed 4.5%.</p>	<ul style="list-style-type: none"> ▪ It would be preferable to coincide checks of exhaust gases with vehicle inspections; ▪ Emission checks should be adapted to the fuel used by the vehicle. Opacity for diesel vehicles and carbon monoxide for petrol vehicles.

2.4.5.2 Law 96/07 on the protection of the national road infrastructure

Article	Content	Comments
Article 8	<ol style="list-style-type: none"> 1) All vehicles circulating on the roads are regularly submitted for vehicle inspections. 2) The vehicle inspection described in (1) above concerns issues which, if defective, would be likely to degrade the road infrastructure or affect the safety of individuals, property and/or the environment. 3) The procedures for carrying out vehicle inspections are established by an order by the Minister of Transport. 	<ul style="list-style-type: none"> ▪ Ad hoc vehicle inspections should also be provided for, such as those conducted for registration. ▪ The introduction of vehicle inspections upon a change of ownership could be considered. ▪ A section on checking vehicle identity should be included. ▪ The scope of action of the order should be detailed and extended to the management of the sector, authorisation of operators, sanctions and other issues.
Chapter III	Sanctions for infringements relating to vehicle inspection	<ul style="list-style-type: none"> ▪ Roadside inspections should be introduced by the supervisory authorities. ▪ Owners should be made responsible for the maintenance of their vehicles. ▪ A matrix of infringements and related sanctions could provide an effective, transparent framework.

2.4.5.3 Order No. 011/a/mint of 23 February 1998 regulating the technical inspection of vehicles

Article	Content	Comments
<p>Article 3</p>	<p>1) Regular vehicle inspections do not release the vehicle owner from the obligation to maintain their vehicle in good working order during the validity of the relevant inspection certificate, in compliance with the provisions of the Traffic Regulations.</p> <p>2) Authorised or certified Ministry of Transport agents may order ad hoc vehicle inspections and involve the Police Force or National Gendarmerie if they note a vehicle on the public highway:</p> <ol style="list-style-type: none"> 1. emitting fumes or opaque gases that are harmful to the environment or unpleasant; 2. that is noisy and liable to cause discomfort to road users or local residents; 3. that has an obvious defect that cannot be immediately remedied and which concerns the following: <ol style="list-style-type: none"> a) mandatory lights, b) wheels and tyres, c) seat belts (front), d) mandatory rear-view mirrors, e) windscreen wipers, f) compliance with the registration documents with regards to: <ol style="list-style-type: none"> i. genre, ii. type, iii. bodywork, iv. fuel, v. number of seats, vi. registration number plate. <p>3) When authorised or certified Ministry of Transport agents observe a vehicle on the public roads that represents, due to its condition, a manifest danger for the safety of its passengers or users, they may request the Police Force or National Gendarmerie to withdraw it from circulation. A route is then assigned to the vehicle for this purpose.</p> <p>Vehicle inspections shall not have the effect of removing or mitigating the liability of manufacturers, carriers or drivers. However, the liability of the public officials or approved centres responsible for vehicle</p>	<ul style="list-style-type: none"> ▪ The traffic regulations must clearly define the owner's responsibility to maintain their vehicle and the extent of this responsibility. ▪ Ad hoc checks must be carried out under the same conditions as the vehicle inspection. The equipment used must be calibrated and the procedure well defined.

	inspections is engaged in the event of a fraudulent vehicle inspection. Disciplinary sanctions may be applied to public officials who are at fault. With regards to the vehicle inspection centre, the range of penalties may extend as far as the withdrawal of approval.	
Article 7	<p>Vehicle inspections check the condition, operation and compliance with the provisions of the Traffic Regulations of the various vehicle components, in particular:</p> <ol style="list-style-type: none"> 1) the condition of the chassis and chassis components, 2) the condition of the axle suspension, 3) steering, 4) brakes, 5) transmission, 6) lighting and signalling systems, 7) wheels and tyres, 8) bodywork, 9) accessories and any other checks deemed necessary for the proper operation of the vehicle. <p>Vehicle inspections shall include the operation checks indicated in the annex to this order.</p>	<ul style="list-style-type: none"> ▪ there are two types of vehicle inspection: <ul style="list-style-type: none"> ○ Automated checks using technical equipment, ○ Visual checks following an inspection procedure. ▪ The various elements should be broken down into functions; within each function, the points checked and the anomalies noted are detailed, together with the decisions taken in each situation.

2.4.5.4 Summary

- In order to ensure a comprehensive, coherent and evolving legislative, regulatory and procedural framework, against the background of a technically reliable and economically viable sector, the legal corpus should be updated to incorporate all the requirements to raise standards:

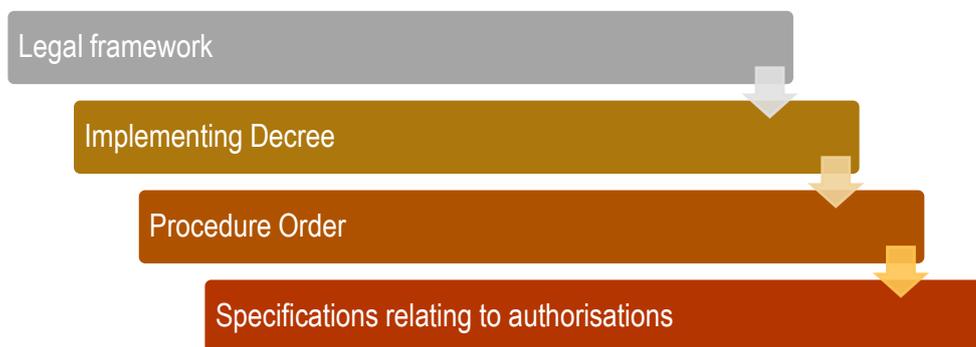


Figure 10 – Hierarchical organisation of the legal corpus.

- There are no requirements for acceptability thresholds measured by vehicle test equipment. These thresholds will have to be established and gradually evolve while developing the fleet of vehicles in a continuous, realistic manner.
- There are no requirements regarding the frequency of inspection for motorcycles, mopeds, tricycles and quadricycles.

- There are no obligations regarding the connection of equipment, approval of equipment, its calibration and maintenance and the transfer of data between the centres and the administration.
- There are no requirements on the administration's method of authorising inspectors. This method should define:
 - The scope of inspectors' responsibility in the vehicle inspection process;
 - Sanctions in the case of infringements;
 - The competencies required to enter the profession (obligatory minimum initial qualification training (FQIMO)) and to maintain the qualification (obligatory continuing training (FCO)).
- No requirements are defined for the missions of the centre manager.
- The requirements in respect of the premises should include the unhindered movement of vehicles inside centres:
 - No reversing or dangerous manoeuvres;
 - Smooth entry and exit to the centre, with no dangers in the centre itself or on the public highway at the entrance and exit;
 - The dimensions of the centre shall depend on the configuration and location of the centre.

2.4.6 Organisation and management of the sector

2.4.6.1 Current organisation

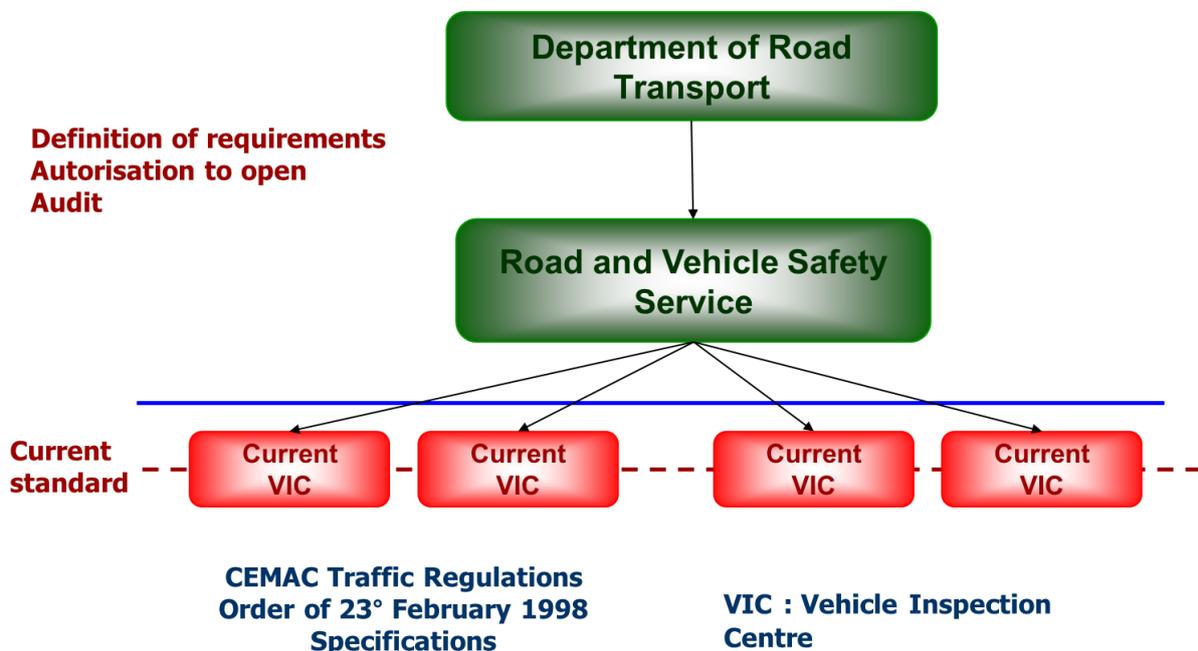


Figure 11 – The current organisation of vehicle inspection.

2.4.6.2 Human resources at the centres

The administration defines the minimum staff level and basic training but does not set requirements for training to gain a qualification or continuing training nor the sanctioning of inspectors or centre managers.

Furthermore, the responsibilities of team members at the centres are not well defined and the scope of missions is not delimited.

2.4.6.3 Management and auditing the sector's activities by the administration

The texts currently in force regarding the management of vehicle inspection in Cameroon stipulates the use of audits.

Audits have been carried out by the administration in collaboration with the professional association of vehicle inspection centres.

Furthermore, the Department of Road Transport has entrusted a private operator to set up a system to safeguard the issue of vehicle inspection stickers.

A dependable, efficient management system should be put in place to ensure the quality of services, the reliability and effectiveness of controls and the uniformity of the system throughout the country.

2.4.6.4 Current equipment used for vehicle inspections

We have not been able to recover comprehensive data in order to provide qualitative and quantitative information on the sector.

What's more, the equipment installed comes from several different origins and does not allow a uniform testing methodology to be applied at all approved centres.

Indeed, the current operator in charge of safeguarding the issue of technical inspection stickers uses the GIEGLAN protocol to connect technical equipment and automatically retrieve measurement data on inspected vehicles.

However, many centres are unable to connect to this protocol and a significant number of control lines cannot employ this mode of data transfer as the construction of the centres is not suitable for this type of connectivity.

We also found deficiencies in the setting, calibration and maintenance of equipment.

The equipment to test two- and three-wheeled vehicles is not described by the regulations and not available at the centres.

Acceptability thresholds are also not defined by the administration. It is the centres that define the limits, at their discretion or following the recommendations of equipment manufacturers.

3 Proposed system for vehicle approval

3.1 Objectives

The approval of vehicles represents a guarantee for the Cameroonian Government that only safe, less-polluting vehicles are allowed on public roads.

Furthermore, an effective approval system means that the consumer is protected and has certainty that a vehicle can only be sold or registered in the country if it meets the requirements in terms of technical reliability, authenticity and identification.

3.2 Implementation approach

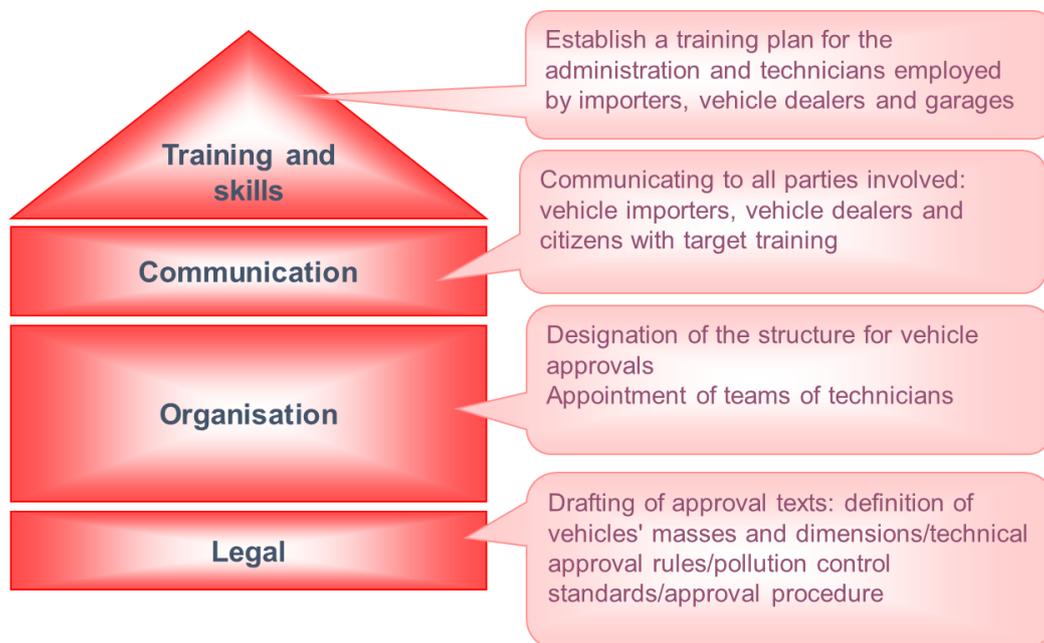


Figure 12 – Suggested approach for the implementation of the proposed approval system.

Table 8 – Summary of actions to be implemented to upgrade vehicle approvals.

Function	Current status	Recommended actions
Legal	<ul style="list-style-type: none"> Regulation no. 040/01 - UEAC 089 - CM - 06 Adopting the revised Community Traffic Regulations; Law 96/07 of 08 April 1996 on the protection of the national road infrastructure; Decree no. 79/341 of 3 September 1979 on the regulation of road traffic, as 	<p>Continue drafting the legal corpus in order to ensure consistency with the international reference system, particularly in relation to:</p> <ul style="list-style-type: none"> Vehicle masses and dimensions; Active and passive vehicle safety rules. A gradual introduction could be adopted, starting with earlier versions and increasing the level following an action plan until alignment with the international standard is achieved; Polluting emissions. In this regard, it would be preferable to adopt a standard that suits the quality of fuels currently on

	<p>amended and supplemented by Decree no. 86/818 of 30 June 1986;</p> <ul style="list-style-type: none"> • Decree no. 2012/250 of 1 June 2012 on the organisation of the Ministry of Transport; • Order no. 003959/A/MTPT of 23 July 1991 regulating the arrangement of the operation of public transport vehicles and mixed transport vehicles; • Order no. 003960/A/MTPT 23 July 1991 establishing specifications for the lighting, signalling and braking systems of motor vehicles; • Order no. 010/A/MINT of 23 February 1998 regulating the approval of vehicles and associated equipment; • Order no. 009/MINT/DTT of 23 February 1998 on the regulation of the road transport of hazardous goods; • Order no. 00947/MINT/DTT of 24 November 2000 specifying signalling systems for motor vehicles. 	<p>the market, and then gradually raise the level as fuel products improve;</p> <ul style="list-style-type: none"> ▪ The approval procedure by implementing a clear, exhaustive and evolving procedure; ▪ The definition of the responsibilities of the various parties involved; ▪ The definition of type approval, its scope and the structures that can benefit from it. Defining, in this case, an accreditation system for vehicle importers; ▪ An exhaustive definition of the different cases of individual approval; ▪ The definition of a reference system for bodywork specialists with the objective of upgrading the sector and avoiding uncontrolled interventions, particularly on public transport and goods vehicles.
Organisation	<ul style="list-style-type: none"> ▪ The simple recovery of a vehicle's initial data; ▪ The administration relies on a private structure for vehicle approvals; ▪ No specific conditions are stipulated for the private structure and there is no demarcation of the scope of intervention concerning file reviews and the approval authority. 	<p>Whether conducted internally or outsourced, the administration must establish or require the organisation of:</p> <ul style="list-style-type: none"> ▪ A reinforced structure in terms of human and material resources responsible for vehicle approvals; ▪ The delimitation of the scope of intervention of the private structure regarding file reviews and vehicle identification; ▪ Reserving acts of approval for the authority, namely the administration.
Communication	<ul style="list-style-type: none"> ▪ There is no communication action in relation to the principle of vehicle approval. 	<p>Implement a communication plan:</p> <ul style="list-style-type: none"> ▪ For vehicle importers and dealers; ▪ For neighbouring countries;

		<ul style="list-style-type: none"> ▪ For the department of the environment regarding pollution standards; ▪ For the department responsible for fuels in respect of the quality of these products; ▪ For bodywork specialists and garages; ▪ For citizens.
Skills	<ul style="list-style-type: none"> ▪ There is no training initiative on the approval rules established by WP29 (UNECE forum). 	<p>Establish a training plan:</p> <ul style="list-style-type: none"> ▪ Presentation of the reference system drawn up by the WP29 Forum; ▪ For managers of the structure responsible for vehicle approvals; ▪ For technical managers of vehicle dealers and importers; ▪ For auditors with responsibility for compliance audits; ▪ Introduction of FQIMO and CFO for all technical staff.

These actions are not exhaustive but represent a starting point for implementing a project to upgrade vehicle approvals in Cameroon.

4 Proposal for a vehicle inspection system

4.1 Objectives

The upgrading of vehicle inspections must aim to implement an approach to:

- Gradually but continuously improve the reliability of the country's fleet of vehicles;
- Progressively reduce exhaust gas emissions from vehicles on the roads;
- Ensure uniformity of testing throughout the country;
- Extend testing to all categories of vehicles operating on Cameroonian roads;
- Guarantee fair competition between the various operators in the sector;
- Ensure the effectiveness of vehicle inspection;
- Ensure the economic viability of the various authorised private actors;
- Develop active skills in the sector;
- Establish a mechanism for the development and regulation of the sector in such a way that there is consistency between supply and demand.

4.2 Implementation approach

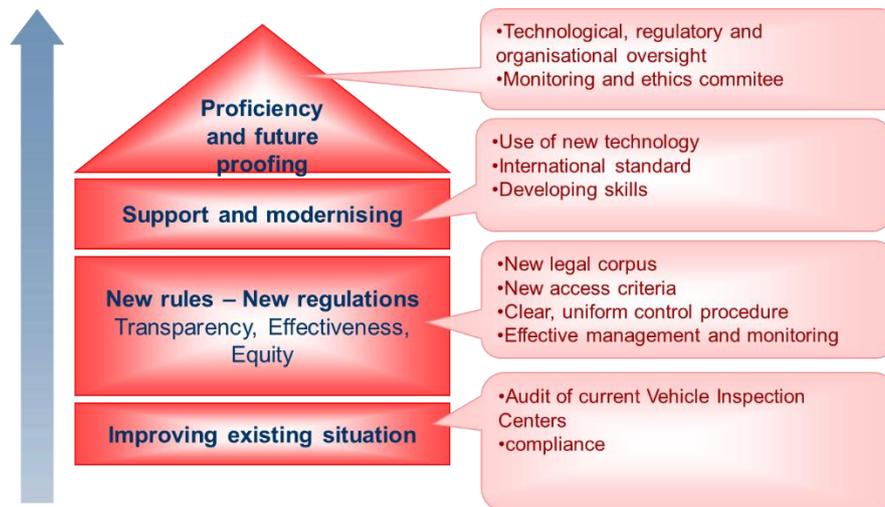


Figure 13 – Implementation approach for upgrading vehicle inspection.

The reforms should cover all issues relating to vehicle checks in their capacity as an inspection activity:

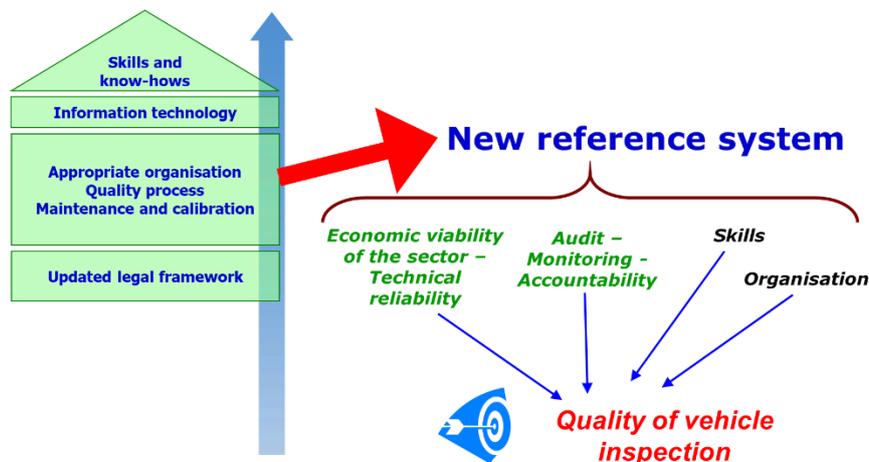


Figure 14 – Structure of the new reference system for vehicle inspection

4.3 Implementation of a new reference system for vehicle inspection

The administration must implement mechanisms to allow the sector to carry out its inspection missions appropriately without entering into situations of unfair competition between the various operators.

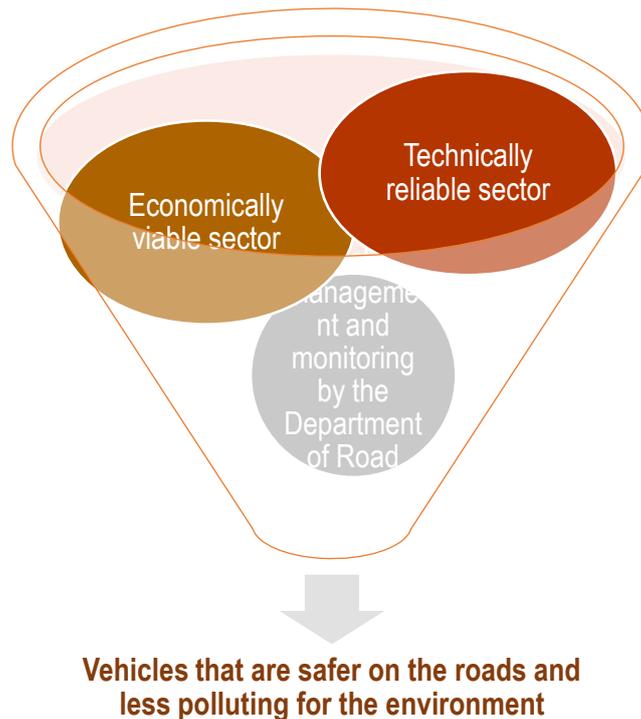


Figure 15 – Mechanism for upgrading vehicle inspection.

4.3.1 Authorisation to conduct vehicle inspections

Vehicle inspection must be carried out in centres that are approved by the administration by inspectors who are authorised by the administration, using approved, calibrated and maintained equipment within the framework of a reference system established for this purpose.

The authorisation of centres should depend on the ability of the centre and inspectors to carry out the category of operations to which they are suited.

This ability depends on several factors including:

- The arrangement and location of premises to allow the smooth flow of vehicles. Entry to, and exit from, the centre from the public road must not involve risky manoeuvres or reversing, and there must be unhindered transit through the testing equipment area and over the visual inspection pit.
- The competence of the inspectors to conduct the tests for the categories of vehicles for which they are qualified and therefore authorised.
- The equipment available at the centre.

Table 9 – Example of the authorisation categories of vehicle inspection centres.

Type of testing	Mopeds, motorbikes, tricycles and quadricycles.	Vehicle with gross vehicle weight ≤ 3.5 T	Vehicle with gross vehicle weight > 3.5 T
Regular			
Prior to individual approval			
Prior to returning a seriously damaged vehicle to the roads			
Prior to change of owner			

4.3.2 Human resources and competencies

Each inspection line should have at least one authorised inspector for the vehicle category of that line.

The authorisations of inspectors could be defined as follows depending on competence and qualification:

- Category 1 authorisation: inspecting motorbikes;
- Category 2 authorisation: inspecting light vehicles;
- Category 3 authorisation: inspecting heavy goods vehicles.

Also, it is necessary that:

- Each testing line should have at least one inspector;
- Each inspector should take full responsibility for the vehicle inspection initiated;
- Considering the duration of a technical inspection, for an estimated 250 working days/year for 8 hours/day, an inspector would carry out a maximum of:
 - 5,000 light vehicle inspections per year;
 - Or
 - 3,250 heavy goods vehicle inspections per year;
 - Or
 - 6,250 motorbike inspections per year.

Consequently, the number of inspectors should be proportionate to the volume of vehicle inspections to be carried out per category per year.

A shift system could be implemented if necessary, in order to absorb the need for vehicle inspections above the production capacity of a test line and inspector. This mechanism could be introduced solely in those locations necessary while awaiting the commissioning of new test lines or new vehicles inspection centres.

An inspector can only be authorised after completing the basic training followed by the obligatory minimum initial qualification training (FQIMO).

This authorisation is renewed annually following completion of the obligatory continuing training (FCO).

A matrix of sanctions should be put in place taking into account the severity of any infringements committed by an inspector.

4.3.3 Network management of the sector

Given the multiplicity of operators, a mechanism to standardise common tools should be set up to ensure the uniformity of vehicle inspection and the availability of data.

In this context, it would be advisable to provide for an entity, either internal to the Department of Road Transport or outsourced via a private structure, to manage and centralise common activities by means of a payment system for the services of approved centres or through flat-rate fees to be instituted by the administration.

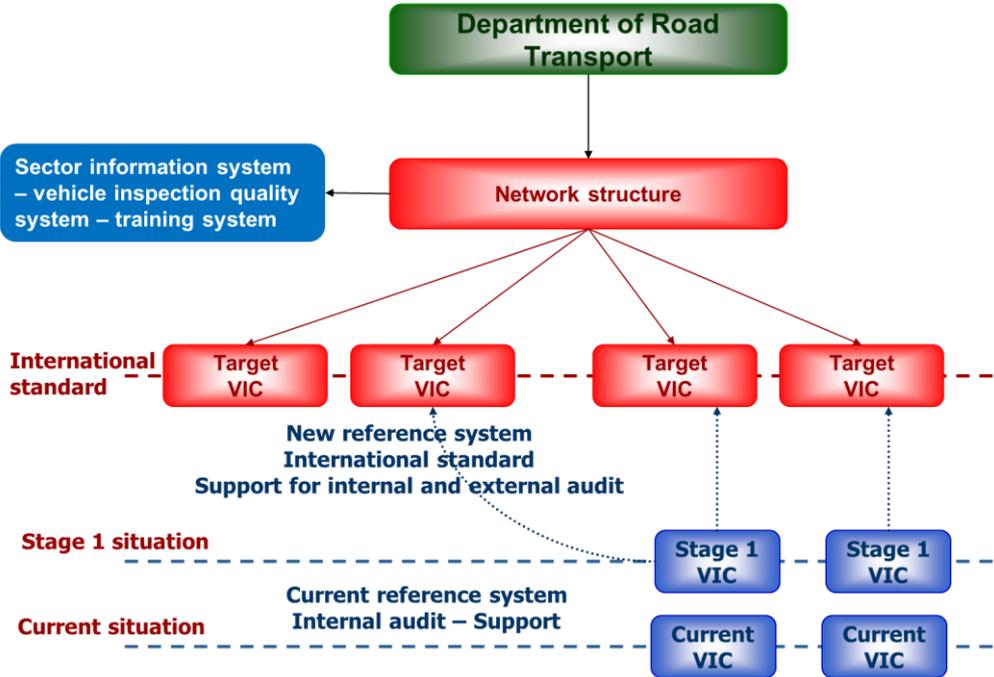


Figure 16 – Hierarchical organisation of the legal corpus.

4.3.3.1 Information System

The information system must allow automatic management of a set of parameters, including:

- Automatic management of inspection lines in particular with regards to updating information, category, calibration, maintenance and operational capability;
- Management of inspectors, in particular with regard to authorisations, qualification categories, updating training and sanctions, absences, leave, departure and recruitment;
- Management of minimum inspection durations. It should only be possible to print a certificate if the duration of the test is equal to or greater than the corresponding minimum duration for the type of test and vehicle category. The following model is proposed as an example:

Table 10 – Example of durations of vehicle inspections by vehicle and line.

Type of inspection	Light vehicles		Heavy vehicles		Motorbikes	
	Minimum duration, mins.	Daily capacity per line	Minimum duration, mins.	Daily capacity per line	Minimum duration, mins.	Daily capacity per line
Regular or due to change of owner	20	20	30	13	15	25
Prior to individual approval or for the return of a seriously damaged vehicle to the roads	40	10	60	7	30	13

- The minimum capacities are per vehicle per inspector. This capacity could increase if the administration authorises more than two inspectors per line and more than one shift per working day. These limits should be adopted automatically by the information system and not allowed to be exceeded.
- Management of public holidays
- The information system shall also take into account each centre's authorisation category and only provide access if the category is compatible with the vehicle presented;
- The system must provide all necessary security and data protection guarantees regarding personal data and vehicle inspection. Changes and interventions should only be possible if the system allows them;
- The system must allow the administration to access the relevant statistics, indicators and data required for the management and monitoring of the sector;
- The system must oversee the security requirements for the supply and management of the vehicle inspection certificates to be printed.
- Establishing a centralised system of the Department for Road Transport/centres/insurance/control bodies to check the reliability of certificates and identify failures to present for obligatory vehicle inspection.
- Establishing real-time transfers via a CAMLAN transfer protocol encompassing relevant equipment and the entire vehicle inspection procedure.
- Setting up a system to prohibit a vehicle presenting at a centre if it has recently been rejected by another centre.

4.3.3.2 Quality system

The network structure must implement a uniform quality system to ensure the standardisation of vehicle inspection operations and enable inspectors to follow the same procedure at all centres.

This system must define the manual of procedures, the vocabulary of vehicle inspection, the monitoring of operations and the evaluation of the activities of centres.

4.3.3.3 Training of inspectors

The structure must implement a pedagogical reference system for the regulatory training of inspectors.

The content of the training courses must be appropriate to the qualifications and range of skills of the various inspectors in order to ensure the relevance of the modules.

4.3.4 Regulation and development of the sector

It is proposed that the development of the sector should be configured as follows:

- A master plan detailing supply and demand. This tool should enable the administration to define the areas that require new lines or centres.

This master plan could originate from the principle of a minimum fulfilment rate, above which it would be imperative to add further supply in the sector.

This addition of lines or centres could possibly be achieved by a competitive bidding system or the data would be communicated to competitors who would be ready to respond to any new request.

The master plan could be updated every two years, given that setting up a new centre should be achieved within this time frame. Consequently, the administration could anticipate demand and issue its requirements two years in advance taking into account the statistics gathered by the Department of Road Transport on the growth of vehicle numbers.

The minimum threshold could be calculated from the economic model for the sector. In this case, the administration could define a minimum profitability rate and deduce the minimum number of vehicles to be tested per year.

- A business model should be developed to recalculate pricing to achieve profitability that is consistent with the sector's development objectives.

In this context, an agreement could be put in place relating to the commitments of operators, both for investment plans as well as in terms of social and quality issues.

4.4 Vehicle inspection thresholds

The vehicle inspection reference system should implement vehicle inspection thresholds for each inspection measurement.

For visual inspections, the reference system should define the nature of damage and the degree of degradation in order to reduce the subjectivity of the evaluation as much as possible and to align all of the inspectors to the same observation standards.

The thresholds could be gradually reassessed in order to improve the condition of vehicles on the roads in a progressive manner without a dramatic negative impact on owners.

Furthermore, these thresholds should be implemented within the framework of a clear, consistent and exhaustive procedure.

5 Projected impact of the reform

Upgrading vehicle inspection and approvals will certainly have a direct and significant impact on improving vehicle safety and reducing polluting emissions; it will also have a positive effect on the country's socio-economic situation.

In fact, there will be a dynamic effect on the transport sector as the activities of vehicle inspection companies gain credibility:

- The traceability of activities and the use of information technology in the management and oversight of the sector will lead to a transparency in declarations which should become systematic and automatic. This will mean that companies will fulfil their tax obligations in full compliance with the regulations;
- The regulation of production by centre according to the maximum permissible capacities per inspector and per line will oblige companies to recruit more staff in order to meet the demand for vehicle inspection. This situation would be accentuated by the strengthening of roadside inspections;
- Upgrading the vehicle inspection and approval sector will actively contribute to the development of skills and expertise in the transport sector in Cameroon. Indeed, the implementation of obligatory training (FQIMO for access to the profession and annual FCO for the maintenance of qualifications) will improve knowledge and expertise, in this way serving to develop the industry in Cameroon, including for bodywork, vehicle technology and repair;
- The upgrade will oblige centres to adapt their premises and equipment to the new regulatory requirements. If we assume that each centre would invest an average of XAF 100 million, and in the hypothesis that 40 centres are active in the country, in total these centres would inject XAF 40 billion into the Cameroonian economy. This investment would be increased when, with the regulation of the sector, the Department of Road Transport would launch and operate new centres to meet the demand not satisfied by the current supply (fixed centres and potentially mobile stations).

6 Evaluation of the project to upgrade the regulatory and organisational frameworks

Following our mission, and in view of the findings of the study, it is proposed that some priority actions could be implemented to reform vehicle inspection and approval activities.

6.1 Overall legal framework relating to vehicle inspection and approval

The objective is to establish a new legal corpus adapted to the reform in Cameroon, allowing alignment with international standards and putting safer, less-polluting vehicles on the roads.

Action	Assistance
Updating the Community framework and/or national law on the inspection and approval of vehicles and their accessories.	External assistance
Updating the decree on the inspection and approval of vehicles and their accessories.	External assistance
<ul style="list-style-type: none"> ▪ Drafting an order relating to the approval procedure for vehicles and accessories ▪ Definition of the technical reference system for approval and proposal of versions and levels to be adopted with a view to future development 	External assistance

6.2 Vehicle approval

Action	Assistance
Design and implementation of the organisation of the structure for vehicle approvals;	External assistance
<ul style="list-style-type: none"> ▪ Proposal of a reference system for training approval technicians ▪ Proposal for, and dimensioning of, a training course for a team of technicians 	External assistance
Presentation of the new system to the various administrative bodies concerned (Department of Road Transport, Customs, Industry, Energy and Mines, Inspection Body) and professional entities (vehicle importers, hauliers, bodywork specialists, assembly lines, etc.)	External assistance

6.3 Vehicle inspection

Action	Assistance
Detailed audit of centres for the collection of exhaustive, reliable data on premises, equipment, staff and HR skills.	External assistance
First stage upgrading of centres in terms of premises, equipment and inspection staff	External assistance
Definition of the structure that would be responsible for the management of the network of centres (internal or external to the administration)	External assistance
<p>Development of the operational framework, in particular with regards to:</p> <ul style="list-style-type: none"> ▪ Vehicle inspection procedure; ▪ Acceptability thresholds; ▪ Premises; ▪ Equipment; ▪ Inspectors; ▪ Network management: data transfer/quality system/organisation and method of implementation of obligatory training (FQIMO and FCO)/implementation of preventive audits for centres ▪ Definition of the administrative management method: <ul style="list-style-type: none"> ○ Legal, organisational and technological monitoring; ○ Audits; ○ Monitoring and analysis of activities; ○ Sanctions; ○ Regulation and development of the sector; ○ Monitoring and ethics committee 	External assistance
Drawing up an IT protocol for data transfer.	External assistance
Development of software and IT tools or acquisition of an off-the-shelf solution used in other countries.	External assistance
Upgrading of skills and training of trainers	External assistance
<ul style="list-style-type: none"> ▪ Drawing up the quality system for vehicle inspection ▪ Training of auditors/quality control managers ▪ Implementation in vehicle inspection centres with staff training 	External assistance