

# 2022 ANNUAL REPORT



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## TABLE OF CONTENTS

FOREWORD	04
HIGHLIGHTS	07
EVENTS & WEBINARS	13
GLOBAL	25
ON THE HORIZON	33
ABOUT CITA	39

# FOREWORD



Dear CITA members,  
stakeholders, and friends,

The year 2022 was dominated by global crises. However, goals and measures to increase road safety and avoid traffic-related environmental pollution were high on political agendas around the world.

The reason for this is that the global vehicle fleet will continue to grow rapidly and consequently the number of road accidents and the environmental impact. It is estimated that by 2050 there will be over two billion vehicles, many of which will still have an internal combustion engine.

This also increases the challenges for road safety and traffic-related environmental pollution, especially in urban regions.

The demands to make transport more sustainable for a better quality of life are increasing: less noises, cleaner air, less congestion, better roads, and a lower risk of accidents.

Digitalization and transformation into automated and emission-free vehicles hold great promise for making transport ever safer, cleaner, and more sustainable. At the same time, however, these new technologies also create new risks that need to be controlled.

With currently more than 250 million independent and valid vehicle inspections per year, CITA members make a significant contribution to addressing these major challenges.

Once again, CITA, together with its members and partners, successfully undertook many activities in the past year in order to develop solutions for these new challenges:

We prepared recommendations and position papers, held conferences in Africa, Asia, North America and Europe, organized a large number of webinars and events, regularly exchanging views with all relevant stakeholders. All with the aim of increasing road safety worldwide and reducing the environmental impact of vehicles.

With the CITA Roadmap 2030, we are on the right track and well prepared for the challenges ahead. This was confirmed by the excellent results of the member survey conducted at the end of 2022, which gave additional motivation to the CITA association.

This great achievement is due to the good and committed cooperation of the CITA secretariat and CITA members and I am personally very happy about it!

Last but not least,, I would like to refer to this year's CITA General Assembly and International Conference in the Netherlands I am very much looking forward to welcoming you all personally in Rotterdam.

**WE MAKE ROADS  
SAFER AND CLEANER.  
Every day. Everywhere.  
Impartially. Responsibly.**

On behalf of the CITA Bureau Permanent and the CITA Secretariat I would like to thank all our members and partners for their commitment in making our association so successful.

Furthermore, a special thank you to all those who, like us, are dedicated to vehicle safety and environmental protection.

**Gerhard MÜLLER**  
CITA President



## HIGHLIGHTS:

RECOMMENDATIONS 8 - 9

POSITION PAPERS 10 - 11

## - HEADLAMPS

### CITA Recommendation no.25

The purpose of our new recommendation no.25 is to specify in more detail the **recommended test methods and equipment for assessing the alignment of vehicle headlamps, and their performance where applicable.**

This document lists the items that should be inspected during periodic technical inspection of a vehicle, the method of inspection and the principal reasons for failure.

Drawn up by the CITA Headlamps Task Force, the recommendation is based on the requirements regarding lighting systems in European Union Directive no. 2014/45/EU on roadworthiness tests for motor vehicles and their trailers.

It describes two Stages:

- **Stage I:** headlamp alignment testing in accordance with the current EU Directive 2014/45/EU.
- **Stage II:** the current advanced or near future technology (camera HAD / OBD) to check the cut-off line position. Stage II describes what can be done beside Stage I.



## - BRAKES

### CITA Recommendation no.8

The purpose of the new updated recommendation on brakes is to **specify top-level test methods, alternatives, and equipment for assessing the required safety of vehicle braking systems.**

This document is based on the requirements regarding braking systems of the European Union Directive 2014/45/EU on periodic roadworthiness tests for motor vehicles and their trailers, and it takes account of the ISO standard for roller brake testers, supplement 07 to UNECE Regulation 13.09 concerning reference brake forces for periodic technical inspections, and the outcome of the CITA ECSS Project.

This recommendation was first developed by the CITA Working Group 1 and concluded by its successor Task Force Brakes.



## - ENSURING LIFETIME COMPLIANCE OF EVS WITH SAFETY & SUSTAINABILITY REQUIREMENTS

Due to recent regulatory changes, technological advances, and changing consumer behaviour, the adoption of electric vehicles (EVs) is on the rise and will increase dramatically in most major automotive markets.

With electric vehicles claiming an ever-increasing share of the vehicle fleet, **it is critical to ensure that safety and environmental performance requirements are met through vehicle lifetime compliance.**

CITA is convinced that ensuring the safe use of EVs and a proven positive impact on reducing emissions is an enabler of EV adoption rather than a roadblock. At the same time, current Periodical Technical Inspection (PTI) criteria do not yet address the specifics of EVs.

A task force made up of international PTI and EV experts has developed a series of recommendations published in this report. **These recommendations aim to ensure vehicle safety and compliance with environmental performance throughout the life of the vehicle; to consider the cost/benefit and convenience aspects from the user's point of view, and to keep the investment for PTI service providers – and therefore the cost for those who pay or finance PTI – at a manageable level.**

With the term "EV" the document refers to vehicles that have an electric drivetrain, whether or not it is combined with a traditional combustion engine such as in hybrid vehicles.

While compliance with many, but not all, of these requirements is checked at type approval, the function of relevant systems and components may deteriorate due to ageing, damage or tampering over the use phase of the vehicle.

This document, divided in four main areas, summarizes CITA's recommendations on how PTI should be adapted to cover EVs appropriately:

1. General safety.
2. Electrical safety inspection (electric elements and resistance/isolation).
3. Rechargeable Energy Storage System (REESS) and Battery Management System (BMS).
4. Electric energy consumption.

Moreover, several prerequisites for an effective PTI-adaption for EVs need to be given.

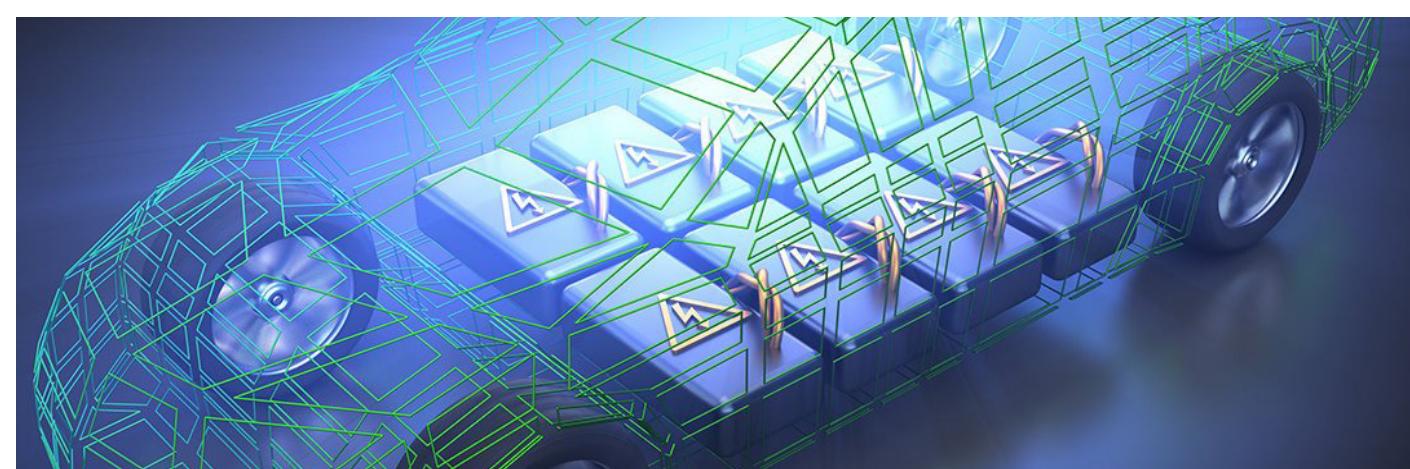
These include, but are not restricted to:

- A mandate for relevant items to become part of the type-approval requirements;
- Open access to relevant OEM data for PTI organizations in a legally standardized form, in a centralized way and on a non-discriminatory basis; and
- Relevant equipment needs to be available at the place where PTI is conducted, and inspectors must be appropriately trained for HSE (health, safety, environment) purposes and to achieve consistent outcomes.

CITA aims to initiate a constructive and target-oriented dialogue with relevant policymakers and key industry stakeholders to adapt PTI where needed for EVs.

CITA strongly believes that for EVs to play out their full potential in terms of achieving sustainable and safe mobility while ensuring user acceptance over time, the items as laid out in this document must be regularly inspected over a vehicle's lifetime.

**PTI is essential and needs to be adapted quickly for electric vehicles.**



## - SAFE FUNCTION FOR ROAD-GOING MICRO-MOBILITY

The micro-mobility market remains embryonic, however, CITA remains focused on retaining the viability of these conveyances throughout their deployment lifetime and to safe disposal.

CITA feel it is an ineffective, unrealistic, and short-sighted defence to suggest that all existing infrastructure, vehicles, and driver/riders/pedestrians must rapidly change to accommodate the safe deployment of this road-going, inter-modal conveyances .

We strongly believe that, for the “Road Capable Micro-Mobility” that have been scoped in this new position paper, a conveyance of this capability could

**safely integrate with the existing mobility and logistics ecosystem within existing infrastructure, while becoming more sustainable, less prone to accidents and increasing overall levels of comfort and meeting individual mobility demands beyond borders.**

This would support the ambitious sustainability and environmental targets we support while ensuring user acceptance over time.

The content of this new document will be regularly evaluated as knowledge, capability & acceptance continue to change in this embryonic road-going sector.



## - ACCESS TO IN-VEHICLE DATA

This position paper indicates the key **requirements for to establish a future legal framework for access to in-vehicle data**. Vehicle safety, security and environmental compatibility must be assured throughout the lifetime of the vehicle, which increasingly depends on electronic components as well as software versions and AI algorithms.

Independent and trusted access to validated in-vehicle data and diagnostic functions for sovereign use cases are the necessary basis for efficient and independent evaluations, e.g., for type approval, roadworthiness testing, market surveillance or research.

This will ensure road safety and environmental compatibility of vehicles well beyond their initial life cycle. At the same time, consumer confidence in new and existing technologies is strengthened and the EU Member States can fulfil their duties to citizens, which include the protection of road users and their privacy, environmental protection, and road safety.

**Sovereign use cases are currently not considered in today's technical implementations, which motivates CITA to propose a suitable concept for a future legal framework.**



## - MONITORING OF NOx EMISSIONS AS PART OF THE PTI

Nitrogen oxides (NOx) are the second largest cause of premature death out of the various pollutants. In 2021, the World Health Organization (WHO) published new air quality guidelines to protect human health. Here again, NOx is identified as one of 4 key air pollutants that are particularly relevant to human health.

**This report identifies and evaluates fundamentally feasible methods and procedures for the monitoring of NOx emissions under the special and given framework conditions of the PTI.** A recommendation is made on how the emission behavior can be efficiently evaluated for both current vehicles and future vehicle technologies.

Since the PTI is independent and represents a 100% test of each individual vehicle registered on public roads, it is very suitable for detecting high emitters.

This is a very important measure to control the respective emission level of vehicles during their entire life cycle and is therefore an important instrument for a sustainable environmental policy.

This report represents the current status of investigations. Some other studies on NOx PTI are ongoing.

Seven (7) potential methods have been identified, presented, and evaluated that could be considered for checking NOx emissions and NOx after-treatment systems as part of a periodic technical exhaust inspection (PTI). These methods and procedures were developed or co-developed and studied by different CITA members.

The potential methods described by CITA were discussed and evaluated trying to take into account

that the inspections must be carried out in many different locations, in varying conditions, on a large number of vehicles with a wide range of technical conditions, and with limited time available.

The assessment and evaluation of the possibilities resulted in a relatively clear outcome, namely a feasible concept that covers current vehicles – starting with the Euro 5 standard. Such a concept has the greatest positive impact on the environment – especially in inner cities, which are particularly stressed – in view of the presumably evolution of the vehicle fleet towards electromobility.

For an efficient PTI, access to the necessary vehicle information such as NOx on-board sensors, exhaust gas temperatures, vehicle load, air mass, reagent injection and other information on the OBD interface of the vehicles must be available under all conditions. In addition, the PTI functions that will be formulated in the specifications for type approval in the future could be very efficient and helpful, such as the QNOx factor proposed in the document.

From CITA's point of view, the combination of OBD/diagnostic functions/OBM data assessment, a validity check of the relevant software, a future introduction of QNOx (roughly analogous to OBFCM) and an exhaust measurement with certified and regularly calibrated instruments to validate the on-board sensors, is the most reliable and effective solution to detect the high emitters of the entire vehicle fleet on European roads.

**CITA therefore strongly recommends that NOx emissions are monitored during regular PTI, and to limit and control NOx emissions from on-road diesel.**





## EVENTS:

CITA CONFERENCE 2022

15

THE CZECH PRESIDENCY

17

REGIONAL ADVISORY GROUPS

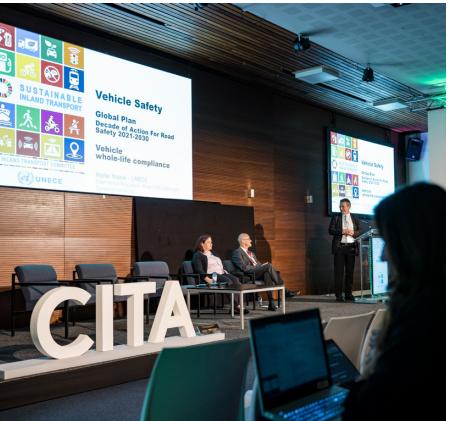
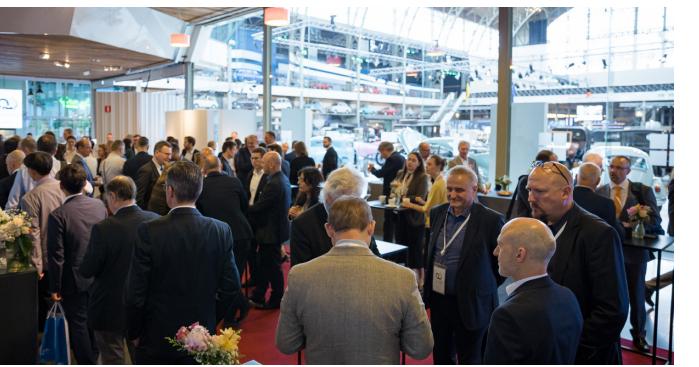
18 - 20

HYBRID MEETINGS

21

WEBINARS

22 - 23



# SAFE AND CLEAN ROAD TRANSPORT *ALWAYS. EVERYWHERE.*



BRUSSELS, BELGIUM > 8 - 9 JUNE 2022

Our International Conference 2022 was a great success! We were honoured to welcome such a large number of colleagues to our event in Brussels last June. Covering the theme: "*Safe and Clean Road Transport. Always. Everywhere.*", the future of vehicle compliance has been the focus of our discussions.



Among the topics covered such as electric vehicles, micro-mobility, ADAS, cybersecurity, emissions, we also discussed vehicle compliance in low- and middle-income countries. The entire event offered the opportunity to retrieve state-of-the-art information on the latest news in technical control, including technical developments and new management approaches.



## CONFERENCE WITH THE CZECH PRESIDENCY OF THE COUNCIL OF THE EU



EU2022.CZ



On 20 September 2022, in the frame of the European Mobility Week (16-22 September 2022), CITa hosted a conference in collaboration with the Czech Presidency of the Council of the EU entitled: "*The challenge of controlling emissions and non-road machinery*".

International experts got together in Brussels to discuss about two very important environmental protection topics: the PN-measurement for diesel vehicles and road safety and emission, and the safety inspection of non-road machineries.

During the event participants have had the chance to share experiences with representatives of the Czech Republic and experts and to talk about different ways to improve road safety and emission behavior of vehicles. Especially the often-forgotten non-road machineries have been in the focus of the meeting.

The agenda of the meeting included the intervention of:

- Mr. Martin Tichy from the Ministry of Transport of Czech Republic
- Mr. Martin Hron from TÜV SÜD
- Mr. Pascal Buekenhoudt from GOCA Flanders
- Mr. Eduard Fernandez from CITa
- Mr. Andreas Mayer from VERT
- Mr. Guillermo Magaz from AECA-ITV

"Vehicle inspection goes a long way in keeping vehicles as clean and safe as possible. I am convinced that we must maintain the level of safety and environmental standards even for off-road machines throughout their entire life cycle, as we do for any. CITa will continue to push for modern, meaningful and impartial vehicle safety and emission inspections, regardless of vehicle type" concluded Mr. MÜLLER – President of CITa.



## - RAG AFRICA CONFERENCE

### Testing Vehicles of the Future

The CITA RAG Africa Conference 2022 took place on Wednesday and Thursday 2 – 3 NOVEMBER 2022 in South Africa.

Under the theme “*Testing Vehicles of the Future*”, the event was kindly hosted by AVTS at the International Convention Center in Cape Town.

On the first day of the conference, the participants went for a technical visit to a Roadworthy AVTS Station, while the conference took place on the second day.



## - RAG EUROPE CONFERENCE



The conference, hosted by CITA, took place on Tuesday 15 November and Wednesday 16 November 2022, both in presence and virtually at the Maison des Associations Internationales in Brussels, Belgium.

The RAG Europe was an opportunity for our members to **meet and hear from leaders of Toxic Areas and Task Forces on the work of their respective groups**. The future challenges of CITA in Europe and related strategies to be addressed were also discussed.



## - CITA ACTIVITIES IN THE USA

In the frame of the RAG North America (RAG NA) activities, CITA President G. Müller, Mr. P. Villari – CITA RAG NA Chairperson, and Mr. A. McIntosh, together with Dr. S. Matthews, presented Dr Matthews' research on the impact of safety inspection programs in the USA to the Committee of Transports and Infrastructures of the US House of Representatives.

This research study, led by Prithvi S. Acharya, Laila AitBihiOuali, Daniel J. Graham and H. Scott Matthews himself, and sponsored by CITA, is another perfect example of **how vehicle inspection is crucial to road safety and saving lives**.

Considering that about 6.5 million roadway accidents occur in the United States each year, costing upwards of \$240 billion, and causing over 30,000 fatalities, the U.S. Centers for Disease Control and Prevention (CDC) list motor accidents as a leading cause of adult mortality in the United States.

The report clearly shows that States with periodic vehicle safety inspections have 5.5% fewer fatalities than those without.



## - RAG ASIA / AUSTRALASIA CONFERENCE

### Development, management and sharing of motor vehicles' inspection database

Under the theme "**Development, management and sharing of motor vehicles' inspection database**" and "**Automated/Autonomous vehicles**", the event was organized in collaboration with our colleagues from Vietnam Register.

Due to the uncertainties related to the COVID pandemic in the Asian region, it was held virtually on November 30th.

During the event we were able to know the results of a research on the establishment of the VILS for the periodic inspection of ADAS, conducted by our member KOTSA in South Korea.

In addition, we learned more about the digital transformation into PTI of motor vehicles in Viet Nam, and got an insight into the recent topics of Japan's PTI registration database system.

We also had the honor of hosting Mr. David A. Shelton, Senior Transport Specialist (Road Safety) at the Asian Development Bank, who told us about the difference in vehicle safety between LMICS in the Asia-Pacific region.

ALL PRESENTATIONS ARE AVAILABLE ON THE CITA WEBSITE

## - HYBRID MEETINGS IN SLOVAKIA

After more than two years of restrictions due to the pandemic, CITA members were finally able to meet in person at a series of hybrid meetings in Slovakia. Hosted by TESTEK in its training and R&D facility of Bratislava, CITA Task Forces "Brakes" and "Headlamps" met on 4 April 2022.

During the TF Brakes, José Luis San Román together with his colleague Javier Garcia demonstrated the Spanish fBRAKE brake testing method on a heavy-duty vehicle.

On 5 April 2022, it was the turn of the CITA Topic Area B "Optimizing Current Vehicle Compliance" to meet at the Falkensteiner hotel in Bratislava. The meeting was attended by over 70 colleagues, 30 of whom attended in person.



CITA members could discuss about the identification of the vehicle, braking and lighting equipment, axles, wheels, and tyres. Attendees were also able to watch a live demonstration from FSD on Suspension test by PTI adapter.

On 6 April 2022, CITA members were invited by S-EKA to its new training center in Nitra to attend Topic Area D "Environmental Protection Systems".

The main topics discussed in the meeting were the NOx PTI activities in Germany, the emissions test in Slovakia, the new CITA position paper on NOx, and the future Euro 7 standard. At the end, the participants visited the S-EKA training center and were able to attend a practical presentation.

## - HYBRID MEETINGS IN HANNOVER

Hosted by TÜV NORD in its facilities of Hannover, CITA TOPIC AREA E: "Quality, Training & Confidence" met on 28 and 29 September 2022.

During the first meeting day, we learned about the PTI inspection in Germany, including new inspection methods, electric vehicles, inspector competence criteria, training and examination, the risks to impartiality, and supervision and audit programmes.

We also had updated information about impartiality and anti corruption from Spain and Slovakia. Moreover, we heard the experiences from Norway in inspecting electric vehicles: its methods, defects found and identified training needs.

The second day, all participants took part at the technical visit, which included a theoretical PTI inspection of an electric vehicle, internal audits, and practical examples.



## - MEASUREMENT PROCEDURE OF NOx & PM

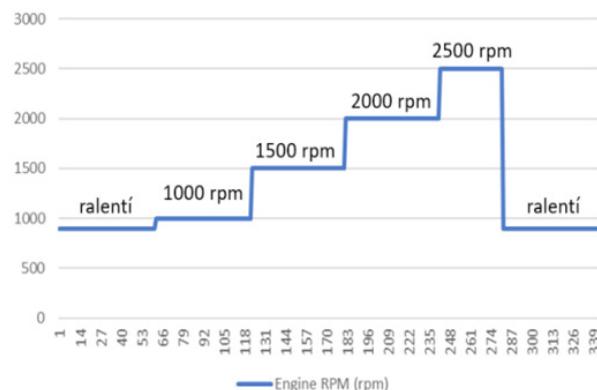
by University Carlos III of Madrid

CITA Member AECA-ITV, the Spanish no-profit Association of the Technical Inspection entities, recently published the results of a research study commissioned to the Institute of Motor Vehicle Safety (ISVA) of the Carlos III University of Madrid (UC3M).

The aim of this study was to develop a universal PTI inspection method that determines the levels of NOx pollution and the concentration of particles emitted by vehicles equipped with internal combustion engine.

Moreover, AECAITV wanted to determine which of the methods considered in the research, the roller test bench, the remote sensing, or static load, was the most suitable for PTI purposes; and finally select the best technology with which these pollutants are measured.

For 20 months, the UC3M tested a considerable number of vehicles looking for the simplest, quick, and inexpensive – effective generalized procedure, suitable for all kind of vehicle category, that could be used without dismantle or remove any part of the vehicle.



In conclusion, the study proposes a new unified method consisting in the measurement of NOx and particle content to be performed at a minimum for 15 seconds before and after acceleration to 1,500 rpm maintained for 15 seconds.

This procedure, complying with all Euro type-approval standards, allows to simultaneously measure NOx emissions and particulate matter emitted by M1 petrol and diesel vehicles.

## - MONGOLIAN TRANSPORT SAFETY IMPROVEMENT PROJECT

Focusing on the PTI

South Korean CITA member KOTSA undertook a new project on road safety and environmental protection in Ulaanbaatar, Mongolia.

Entitled "*Enhancement of Traffic Safety through Strengthening Vehicle Inspection Capacity and Improving Inspection Facilities in Mongolia*", this project will be implemented through budget support from the Korean Ministry of Foreign Affairs and the Korea International Cooperation Agency.

Concretely, the objectives of this 4-year project (2023-27) are to improve Mongolian traffic safety through the advancement of PTI facilities and capacity building, and to support the improvement of Ulaanbaatar air quality through national policy advice on gas emissions from vehicles.

Together with KOTI (Korea Transport Institute) and KOROAD (Korea Road Traffic Authority), and with the participation of the Ministry of Road and Transport Development (MRTD) and National Road Transport Center (NRTC - under MRTD) from Mongolia, KOTSA will establish a policy consulting report, and it will try to modernize the Mongolian PTI Services.

During the dedicated webinar, hosted by CITA in October, KOTSA explained that all this will be possible thanks to the renewal and modernization of the vehicle inspection stations with new advanced equipment, and the strengthening of the capacity of staff with local training.

## - IMPACT OF SAFETY INSPECTION

On the US Vehicle Fleet

In this webinar (1 March 2022), CITA invited Mr. H. Scott Matthews – principal at Avenue C Advisors and former professor in the Department of Civil and Environmental Engineering at Carnegie Mellon University – to present the results of the study "*The impact of periodic Passenger road accident vehicle safety inspection programs in the U.S.A.*"

This research study, led by Prithvi S. Acharya, Laila AitBihiOuali, Daniel J. Graham and H. Scott Matthews himself, and sponsored by CITA, is a perfect example of how vehicle inspection is crucial to road safety and saving lives.

Considering that about 6.5 million roadway accidents occur in the United States each year, costing upwards of \$240 billion, and causing over 30,000 fatalities, the U.S. Centers for Disease Control and Prevention (CDC) list motor accidents as a leading cause of adult mortality in the United States.

Presently, 15 U.S. states require passenger vehicles to undergo periodic safety inspections. Past studies estimating the effectiveness of these safety inspection and maintenance programs (I/M programs) in their stated aim of mitigating road accidents and fatalities have tended to rely on outdated data-sets, or to focus on specific geographic regions.

Since inspection program effectiveness continues to be deliberated in legislative bodies across the country, this paper aims to present a replicable and data-driven quantification of the effects of I/M

programs on road fatalities, applying the largest available data-set, covering all 50 U.S. states over a 44-year period.

**This study presents strong evidence that jurisdictions experience lower roadway fatality rates due to the presence of an active safety I/M program for passenger vehicles.**

Panel data regressions showed a negative correlation between the presence of state I/M programs, and the fleet-size-adjusted roadway fatality rate. Fixed effects (FE) estimates suggest that states with I/M programs had 2.8% fewer roadway fatalities per 100,000 registered passenger vehicles (90% CI: 0% to 5.6%) nationwide, based on data from 1975–2018.

A two-stage least-squares (2SLS) specification is also presented, which not only supports this finding, but also implies a causal relationship between the presence of I/M programs, and lower road fatality rates.



## - AUTOMOTIVE CYBERSECURITY

Regulation & Standardization

More than 60 participants logged into the web event organized by CITA in collaboration with ENISA - the European Cyber Security Agency, Applus + and TÜV SÜD on Friday, May 6.

The purpose of the webinar was to **explain what cybersecurity is, within the context of road vehicles**: the protection of automotive electronic systems, communication networks, control algorithms, software, users, and underlying data from malicious attacks, damage, unauthorized access, and manipulation.



Due to the fact that computers monitor and control nearly every system on vehicles, including steering, brakes, and the engine itself, **automotive cyber security becomes essential for safety**. If a vehicle's computer systems aren't properly protected, hackers can steal data or even take control of the vehicle.



## GLOBAL:

EMISSION TEST IN BELGIUM

26

THE EFFECT OF PTI N SLOVAKIA

27

75 YEARS OF ITC

28

MEETING ON AUTONOMOUS DRIVING

29

WORLD BANK REPORT

30

EU 7

31

## - EMISSION TEST IN BELGIUM

### PN counting

An important project in the field of automotive inspection in Belgium is the refinement of emissions measurements, with a view to sustainable and environmentally friendly mobility.

Last year, the three Belgian regions completed the preliminary phase to integrate the new particulate emission measurement into the inspection process. On July 1, 2022, it became official.

This makes **Belgium a frontrunner in Europe in the fight against particulate filter fraud.**

Knowing that a properly functioning particulate filter removes 95 to 99% of particulate emissions, this has a huge impact on air quality.

The Belgium research was focused on the detection of defect and manipulated Diesel Particle Filters (DPF).

After an extensive 18-month study commissioned by the Flemish, Walloon, and Brussels-Capital Region in Belgium, it was concluded that a new emission measurement that uses PN measurement instruments can reliably assess the quality of the Diesel Particulate Filter (DPF) during the periodic technical inspection (PTI).

Vehicle exhaust particulate emissions increase with age and mileage. A significant increase in PN emissions was observed especially after 6 years and/or after 150.000 km. As the costs for replacing or repairing a DPF can be high, some end users decide to remove it completely.

**Thanks to the use of PN meters and their high sensitivity, manipulations of DPFs will be easily detectable in the future.**

Following the particulate matter measurement, GOCA Flanders gained a new study project for the measurement of nitrogen (NOx) last year. In the context of this assignment for the Flemish Environment Agency, GOCA Flanders worked on a refined NOx emission test.

In this way, GOCA Flanders and the vehicle inspection sector continue to focus on the modernization of the inspection process, thereby confirming their conscious choice to focus on the environment and climate.



Ontwikkeling van een NO<sub>x</sub>-emissietest voor gebruik tijdens de technische voertuigkeuring

Studie uitgevoerd in opdracht van de Vlaamse Milieumaatschappij

## - THE EFFECT OF PTI ON ROAD ACCIDENTS

### Slovakia

Last year was published a new study which once again demonstrates the positive impact of PTI on road safety. This study presents a **search for links between the Periodic Technical Inspections of Vehicles and traffic accidents due to vehicle technical defects in Slovakia.**

Based on these links, an attempt was made to assess the justification of the PTI with regard to road safety. For this purpose, statistical data on traffic accidents, caused by vehicle technical defects as well as data concerning PTI carried out were examined.

The first finding was that the approaching end of the validity of the PTI, the probability of traffic accidents due to technical defects increases for vehicles. The second finding was that with the increasing number of vehicles assessed at the Periodical Technical Inspection Stations (PTI) as temporarily roadworthy and not roadworthy, the number of accidents due to vehicle technical defects was decreasing. The results formulated in this paper show that the PTI have a measurable effect on traffic accidents caused by vehicle technical defects, thus positively affecting the road safety and thus having a demonstrable justification.

Therefore, instead of calling the systems of periodic technical inspections into question,

national authorities should rather take more stringent measures to improve the performance of PTI (especially at the EU level), such as the introduction at PTI of compulsory accreditation under ISO 17020, which has a demonstrably positive effect on the quality of the PTI activity, as well as pay attention to inspections of PTI.

As an example may serve the Slovak Republic, where inspection bodies effectively control the activities of technicians through cameras, thanks to which, after the introduction of this control system, the rate of temporary roadworthiness and non-worthiness in the assessment of vehicles at PTIs increased significantly and, in correlation with this, decreased the number of traffic accidents due to vehicle technical defects.

Made by TESTEK, the research was funded by the project of institutional research of the Faculty of Operation and Economics of Transport and Communications, University of Zilina – Research on the impact of urban logistics on the environment.

The publication was realized with support of Operational Program Integrated Infrastructure 2014 – 2020 of the project: Innovative Solutions for Propulsion, Power and Safety Components of Transport Vehicles, and co-financed by the European Regional Development Fund.



BOTH STUDIES ARE AVAILABLE ON THE CITA WEBSITE

## - 75 YEARS OF ITC

### "Connecting Countries & Driving Sustainable Mobility"

From 21 to 25 February, Ministers and transport Leaders from around the world came together for the UNECE Inland Transport Committee (ITC), under the theme "*75 Years of Inland Transport Committee: Connecting Countries and Driving Sustainable Mobility*". In fact, this 84th plenary session of the Internal Transport Committee (Geneva, 22-25 February 2022) celebrated its 75th anniversary.

The Inland Transport Committee, established in 1947, is the highest political body of the UNECE in the field of transport. Over the past 75 years, together with its subsidiary bodies, it has provided a unique intergovernmental forum where countries come together to forge instruments for economic cooperation and adopt international legal instruments on inland transport.

At the ministerial session on 22 February, participants adopted the resolution on "Ushering in a decade of delivery for sustainable inland transport and sustainable development" and discussed on the ITC's past achievements, current performance and future trajectory, highlighting its evolution and underlying its future potential.

During the VIP lunch break, the president of CITA – G. Müller could address some words to the distinguished guests underlining the need for reliable vehicle data.

"Data are essential to ensure that only good used vehicles are shipped, in international trade for example. Furthermore, these data are instrumental to the recipient countries to verify compliance with the requirements. A solution that networks registrars must be set up to ensure reliability on an IT platform. And reliable data is also crucial for the development of automated vehicles. Some levels of autonomous driving are already available in some markets and this requires access to vehicle data which today is controlled exclusively by vehicle manufacturers", he declared.

The ITC week also included side-events as the Global Road Safety Film Festival, the high-profile exchanges on safer and cleaner used cars for Africa; and meeting on automated and autonomous vehicles, connectivity and e-mobility; and Euro-Asian transport connectivity.

On 21 February, CITA actively participated in the "*Safer and Cleaner Used Vehicles for Africa*" meeting represented by its Executive Director E. Fernández.

This high-level side event was organized by UNECE together with UNEP to explore the advantages and challenges of ensuring access for low- and middle-income countries to safer and cleaner used vehicles that contribute to the sustainable development of countries and cities around the world.

The meeting was build on lessons learned from a successful United Nations Road Safety Fund project on used cars jointly implemented by UNEP and UNECE, where CITA participates in the activity by providing its experience and knowledge on whole-life vehicle compliance in general and vehicle inspection.

The side event contributed to a better understanding of the role of used vehicles in meeting national, regional and global goals, including those stemming from the Sustainable Development Goals, the Decade of Action for Road Safety 2021-2030 and its Global Plan of Action, and the Paris Climate Agreement.



## - HIGH-LEVEL MEETING

### Autonomous & Connected driving

Organized by the French Ministry of Ecological Transition, in the frame of the French presidency of the Council of the EU, the meeting on automated and connected driving ("*High level meeting on automated and connected driving*", HLM-CAD) brought together high-ranking representatives and experts from the field of connected and automated driving from the various EU member States, the European Commission and business, and from academic circles.

#### Data access: why do we need a legal framework for authorities and sovereign public bodies?

- **Vehicle safety, security and environmental compatibility** have to be ensured over the lifetime of the vehicle
- **Valid vehicle inspection** depends on electronic components, software versions and AI algorithms
- **Current situation**
  - Access only possible via **B2B contracts with the OEMs**
  - **No guarantee for original, trustworthy and unfiltered data**
  - Data are limited and **not standardized**, OEMs are gate keepers
  - **No platforms available for sovereign tasks**

**Impossible for authorities to evaluate independently safety and environmental requirements of CAD vehicles**



Given the health situation, the two-days event was held in video-conference.

The meeting started on Wednesday, 16 February in the afternoon and ended the next morning. During the first day, two thematic workshops allowed participants to debate on acceptance and environmental and mobility impacts, and on stakeholder animation. CITA, represented by its President Mr. Gerhard Müller, was involved in the second part of the afternoon to discuss about the access to in-vehicle data.

The plenary session of the 17 included roundtables on research and innovation priorities and public transport and logistics use cases. The plenary session was open to representatives from industry, academic institutions, users' organizations and local governments whose interests you represent at the European level.

Several important parts of the program characterized this meeting:

- An inventory of national and European policies in this area;
- Specific workshops on acceptance, impact on mobility and the environment, exchange of experiences on ecosystem regeneration and cooperation between the public and private sectors;
- A plenary roundtable session on R&D priorities and use cases in the public transport and logistics industries.

## - REPORT

### Motorization Management for Development

Across the developing world, countries are experiencing rapid growth in urbanization and motorization.

While high motorization rates potentially meant that more people will be able to claim the benefits of improved accessibility to goods and services as a consequence of enhanced mobility, there are questions about the sustainability of this future.

Will countries be able to build and maintain infrastructure to accommodate increasing numbers of vehicles?

Will the increasing number of vehicles and their characteristics support attainment of the Sustainable Development Goals (SDGs)? Will they put in jeopardy countries' ability to meet their climate commitments under their Nationally Determined Contributions (NDCs)?

From a development impact standpoint, the nature of a country's motor vehicle stock and how it grows affects three key and tangible outcomes.

First, the quality of the motor vehicle stock affects road safety outcomes - that is, the number of people killed or seriously injured in motor vehicle crashes.

The characteristics of vehicles and their fitness or roadworthiness can affect fatality and serious injury outcomes.

Second, the quality of the motor vehicle fleet affects air quality, particularly in cities. Motor vehicles are a key source of harmful air pollution, including carbon monoxide (CO), fine particulates (PM<sub>2.5</sub>), sulfur oxides (SO<sub>x</sub>), and ozone precursors (oxides of nitrogen and various hydrocarbons), and the amount of these pollutants they emit is directly related to how the vehicle was built and how well it is maintained.

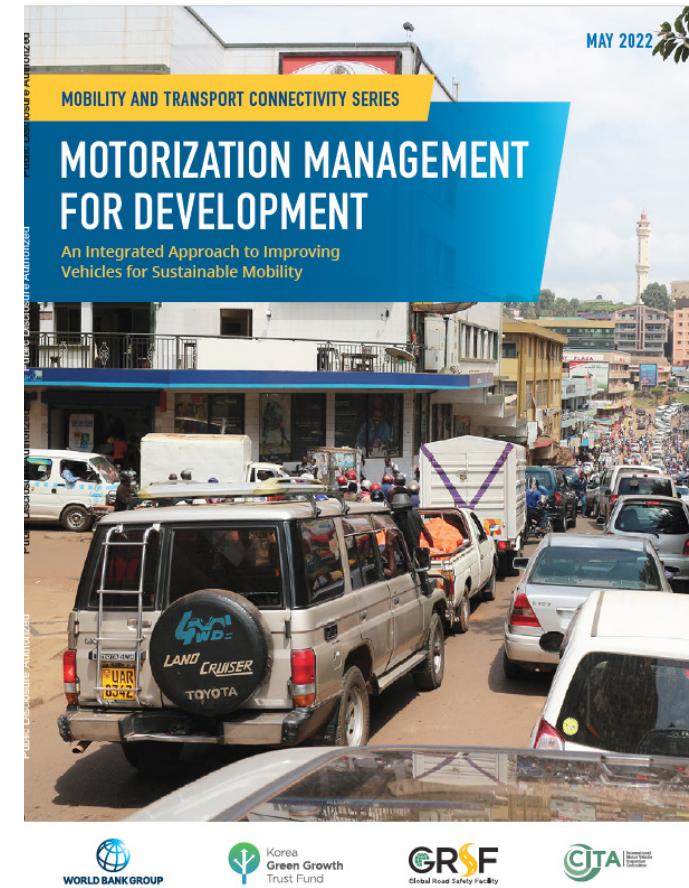
Finally, the profile of the vehicle fleet—what is the size and weight of vehicles in the fleet, how big are their engines, what kind of power control technology do they use, and how did their manufacturers engineer the technology of the vehicle to balance power with efficiency—affects

the (fossil) fuel consumption of the vehicle stock as a whole, and, consequently, the greenhouse gas (GHG) emissions profile of the road transport sector.

This report presents the World Bank's Motorization Management (MM) framework, which is intended to support client countries in the development of policies and measures aimed at managing vehicle stocks in a proactive, phased, and systematic manner to make them safer, cleaner, and more fuel efficient.

The MM framework reflects a series of policy considerations and programs that can be implemented to improve the quality of fuels and vehicles in a country's stock.

**CITA gave its support to advance these important areas of work for both road safety and transport decarbonization goals.**



## - COMMISSION PRESENTED THE NEW EURO 7

To reduce pollutant emissions and improve air quality



On 10 November 2022, the European Commission published its proposal for new vehicle pollutant emission standards. The Euro 7 proposal aims to improve EU air quality and public health by continuing to lower pollutant emissions coming from road transport in order to meet the European Green Deal's zero-pollution ambition.

This new proposal replaces and it aims to simplify the previously separate emission rules for cars and vans (Euro 6) and trucks and buses (Euro VI). The Euro 7 standards rules bring emission limits for all motor vehicles, placing the same limits regardless of whether the vehicle uses gasoline, diesel, electric drive-trains or alternative fuels.

In details, this new proposal intends to:

- Better control emissions of air pollutants from all new vehicles;
- Update and tighten the limits for pollutant emissions;
- Regulate emissions from brakes and tires;
- Ensure that new cars stay clean for longer;
- Support the deployment of electric vehicles;
- Make full use of digital possibilities.

The EC's goal is that by 2035 all cars and vans sold in the EU will have zero CO<sub>2</sub> emissions.

In 2018, more than 39% of NO<sub>x</sub> and 10% of primary PM<sub>2.5</sub> and PM<sub>10</sub> emissions in the EU came from road transport.

These percentages are much higher in cities, where transport is regularly the main contributor to air pollution. It is estimated that road transport caused about 70 000 premature deaths in the EU-28 in 2018.

According to the EC, Euro 7 will lower total NO<sub>x</sub> emissions from cars and vans by 35% compared to Euro 6, and by 56% compared to Euro VI from buses and lorries. At the same time, particles from the tailpipe will be lowered by 13% from cars and vans, and 39% from buses and lorries, while particles from the brakes of a car will be lowered by 27%.

Following the Dieselgate scandal, the Commission has introduced new tests to measure emissions on the road (RDE method) and increased the market surveillance powers of Member States and the Commission, in order to ensure that vehicles are as clean as expected by the Euro 6 norms.

The rules on pollutant emissions are complementary to the rules on CO<sub>2</sub> emissions. The agreed target for 100% CO<sub>2</sub> reduction by 2035 for cars and vans has been taken into account in this proposal. The Commission will review in the coming months the CO<sub>2</sub> standards for lorries and buses.

The Euro 7 Commission's proposal will be submitted to the European Parliament and the Council in view of its adoption by the co-legislators.



## ON THE HORIZON:

CLOSING WORDS

35

CITA CONFERENCE 2023 36 - 37



## ON THE HORIZON

Dear CITA Members,  
Dear Friends and Colleagues,

If 2022 has been an exciting year, wait for 2023.

At a worldwide level, we are approaching the mid-term of the Global Plan for the Decade of Action for Road Safety 2021-2030, and the results are not yet there.

So we must continue to emphasize the role of vehicle compliance to make our roads safer. The same applies to the environment, not only from a health perspective, but also from a climate change prospective.

2023 will be the year for developing some key regulations: the Roadworthiness Package, Euro 7/VII and the Data Act. The Roadworthiness Package contains Directives on the periodic and road-side inspections that have a direct impact on our core activities.

The completion of Euro 7/VII is also crucial for us. This is the last emissions regulation before banning internal combustion engines in 2035, and it has the potential to liaise vehicle approval and inspection more effectively.

Last but not least, the Data Act has to define how to access vehicle data for sovereign activities, such as inspections. All these developments will have an impact not only in Europe, but also globally.

2023 will also be the year of the consolidation of Particle Number - PN counting in several European Union countries. After the success of Belgium last year, it is time now for The Netherlands and Germany.

We also eagerly expect the EU Commission and the WP.29 recommendations soon. By the way, we also need to keep an eye on the outstanding developments in PN counting in Latin America.

We have other challenges ahead: electric and hybrid vehicles, the new vehicles popping up on our roads , the technical evolution of vehicles, and defining our role in the fight against climate change.

Internally, having consolidated our strategy Road 2030, we will now take a step forward to define more precisely how to implement it at the Regional Advisory Group (RAG) level.

We are obliged to convey our message in the best possible way for safer, cleaner and more decarbonized road transport.

Looking forward to continuing working together with you, CITA Members, to bring vehicle compliance in general and inspection in particular to the place they deserve.

Wishing you the best,

**Eduard FERNÁNDEZ**  
**CITA Executive Director**



# Safe and Sustainable Road Transport

Always. Everywhere.



22nd General Assembly & International Conference  
Rotterdam 06 June to 08 June 2023

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CITA:

WHO WE ARE 40 - 41

BOARD AND KEY EXPERTS 42 - 43



**WE MAKE ROADS  
SAFER AND CLEANER.**  
EVERY DAY. EVERYWHERE.  
IMPARTIALLY. RESPONSIBLY.



## WHO WE ARE

The world-wide association of authorities and authorized companies active in the field of vehicle compliance



## MISSION

We are the impartial partner to enable programs and policies for safe and clean vehicles

*WE BELIEVE THAT SUSTAINABLE MOBILITY MAKES THE WORLD BETTER*



We dedicate our daily efforts to improving road safety and protecting the environment.



We organise conferences and seminars on inspection methods, standards and equipment. We create awareness on quality control, assurance and accreditation.



We provide a global forum for best practice exchange. Our members find a unique place to share knowledge and participate global activities related to vehicle compliance.



We facilitate best practice recommendations and draft international standards. For our members, we coordinate studies, research and investigation.



We provide training to stakeholders, capacitate authorities and facilitate on information systems used to improve inspection consistency and effectiveness.

## PLATINUM MEMBERS



## CORPORATE MEMBERS

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AUTOCOM  
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By categories and in alphabetical order

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- Karsten Graef / Deputy Chairperson
- Stefan Teller / Deputy Chairperson

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- Oliver Deiters / Deputy Chairperson

#### TA E / QUALITY, TRAINING & CONFIDENCE

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43

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## SECRETARIAT





**WE MAKE ROADS  
SAFER AND CLEANER**  
Every day. Everywhere. Impartially. Responsibly.

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