

# 'Autofore'

## **Study on the Future Options for Roadworthiness Enforcement in the European Union**

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## Agenda

1. Project background and structure
2. Recommendations 2010/2020
3. Case background – current situation
4. Strategies
5. Options
6. Final report and CD

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## Background and origin

### Situation in 2000 -

- Roadworthiness in Europe controlled by 2 'directives'
- 96/96/EC on periodic inspection
- 2000/30/EC on roadside inspection
- Each has been amended several times

**EU-Commission concluded that it was time to step back and take a strategic look at the future direction**

- CITA led consortium proposed 'Autofore'
- EU Grant awarded in December 2004
- 'Autofore' started in February 2005
- Planned to deliver its final report in January 2007

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## Objectives

- Primary purpose is to develop a **proposal for the future direction of roadworthiness enforcement in the European Union.**
- In addition, it will provide –
  - A report on the current situation in all member states
  - A report on the current and likely development in vehicle and diagnostic technologies and in communications
  - A scientifically based EU-wide methodology for assessing the benefits of vehicle roadworthiness enforcement
  - Cost/benefit assessments of various options
  - Implementation plans - roadmaps

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## Organisation

- **8 work packages**
- **5 partners – IDIADA, argetp21, IKA (University of Aachen), Knibb Gormenzano & Partners and TERNZ**
- **3 Sub-contractors – TNO, University of Cologne, and University of Prague**

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## *Recommendation 1 -2010*

- **Amend Directive 96/96/EC to increase the frequency of inspection for older vehicles of categories 5 and 6, as defined in the Directive.**
- **The economic benefit of increased frequency of inspection of older light vehicles would be over 2 billion euros if vehicles of 8 years and over are inspected annually with a benefit-to-cost ratio of over 2.**

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## *Recommendation 2 - 2010*

- **Amend Directive 96/96/EC to include the examination of safety relevant electronic systems that are already widely fitted (airbags, ABS and ESC).**
- **The benefit-to-cost ratio of inspecting ESC systems alone is 2.6. Additional benefits will arise from testing other systems, such as ABS and airbag systems.**
- **Additional systems should be added when they become widely fitted. Further work described in Recommendation 4.**

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## *Recommendation 3- 2010*

- **Amend the scope of Directive 96/96/EC to include two-wheeled motor vehicles (international categories L1 and L3).**
- **Although an economic analysis could not be undertaken to quantify the magnitude of the benefits, good accident evidence supports the extension of the Directive to two-wheeled motor vehicles. There may be, however, problems with the inclusion of mopeds, but this objective should be pursued.**

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## *Recommendation 4 - 2020*

- **To be able to develop the options for introduction by 2020, the following 3 projects should be initiated.**
  1. Undertake a new study ("AUTOFORE 2") to research the magnitude of the contribution of vehicle defects to accidents and to trial new inspection systems suitable for inspecting the functionality of electronically based technologies.
  2. Undertake further work to develop methods of improving compliance and the effectiveness and efficiency of vehicle inspection.
  3. Undertake further work to develop proposals for further harmonisation of European roadworthiness standards.

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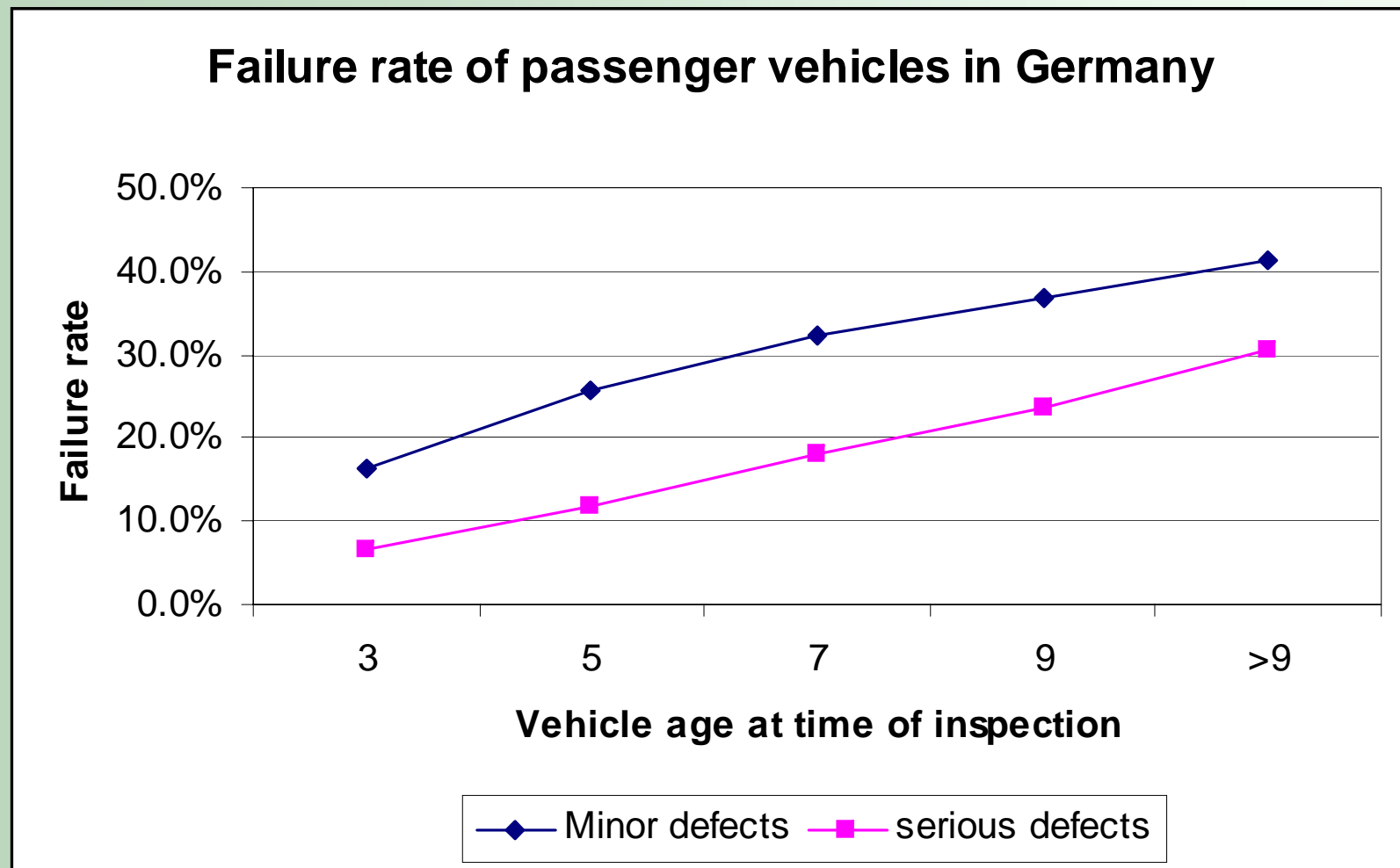
## *Case background*

- All vehicles degrade in service!
- New technologies are increasingly taking over aspects of the driver's tasks as a means of eliminating or mitigating the effects of human error, examples
  - ESC and ACC systems– reduce risk by 20-40%. Annual accident and congestion reduction by €10 Billions
  - Advanced braking systems are leading to major improvements in brake performance and safety.
  - Engine management systems, catalytic converters and related technologies that are significantly reducing emission levels through successive introductions of the "Euro" vehicle emission regulations. Malfunction of, or tampering with, these systems result in higher emissions and the loss of the benefits of the vehicle emission regulations.
  - Vehicle to vehicle communication (V2V) and crash avoidance systems that can, for example, manage both braking and engine power. Ultimately, these could lead to vehicle platooning and automatic driving.



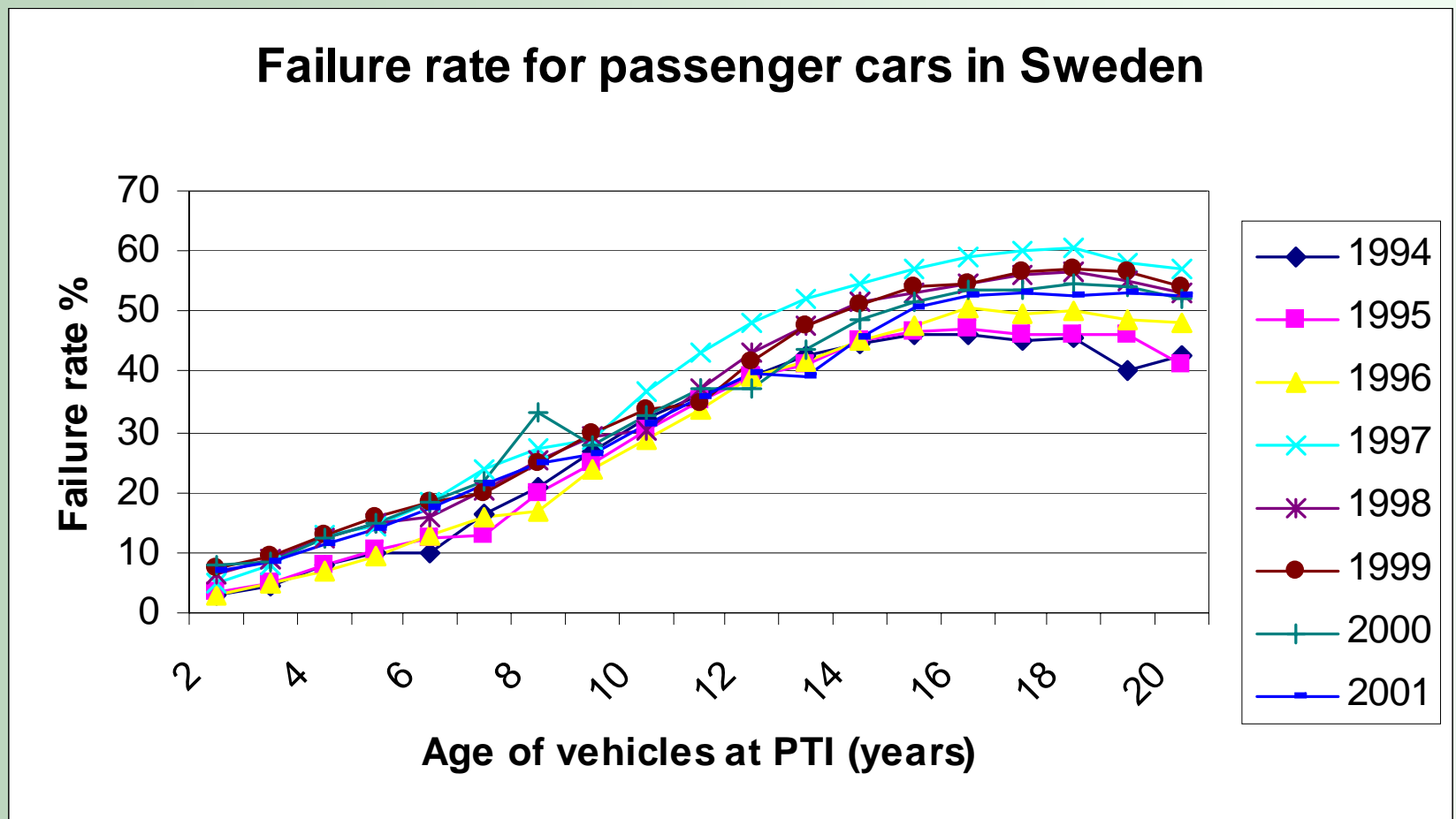
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## *Case background*



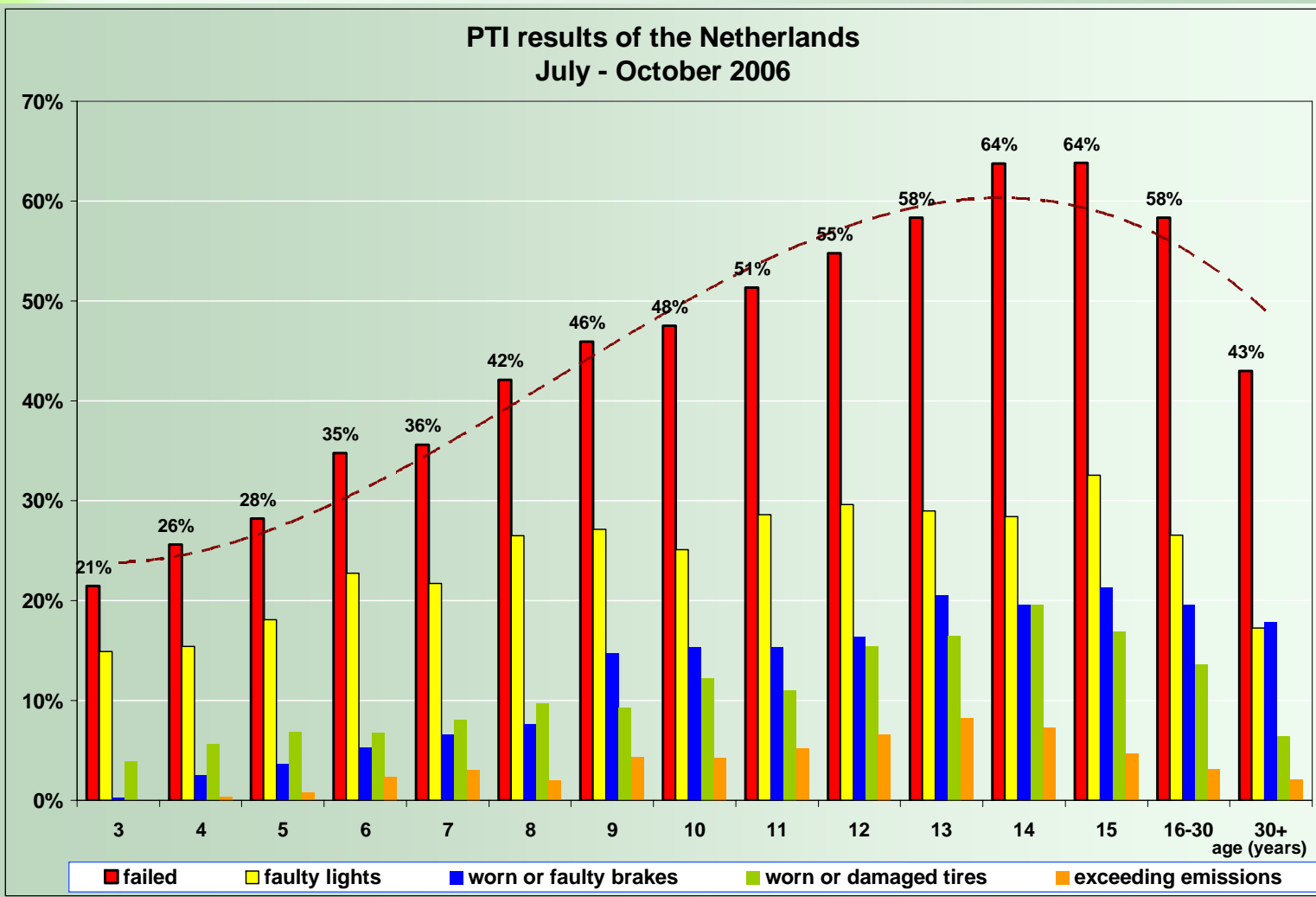
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## *Case background*



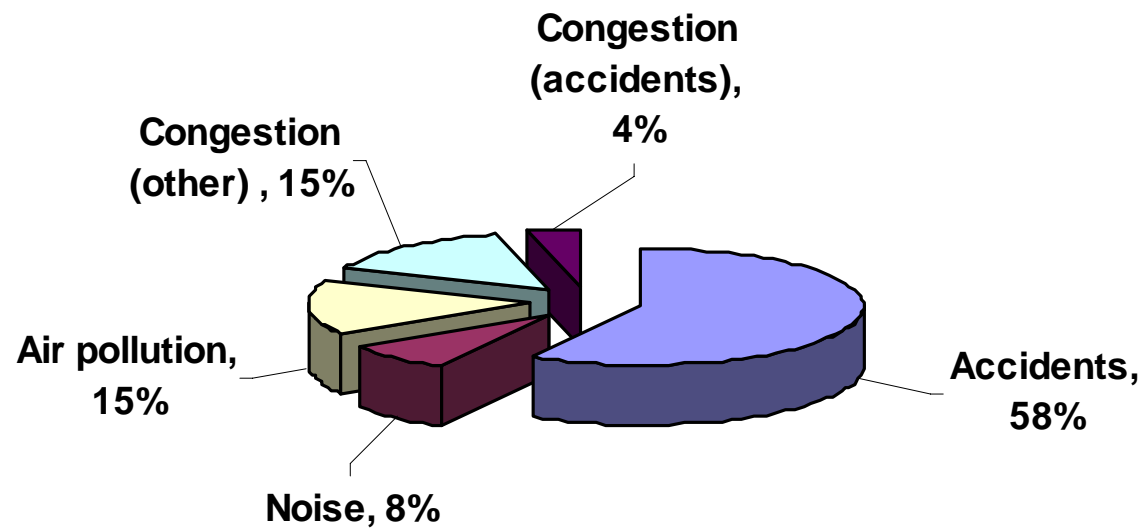
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## Case background



# 'Autofore'

## *Case background*



- Total external costs = €260 billion per year (2001)
- 50 000 fatalities in EU 25 (2002)

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## *Strategies*

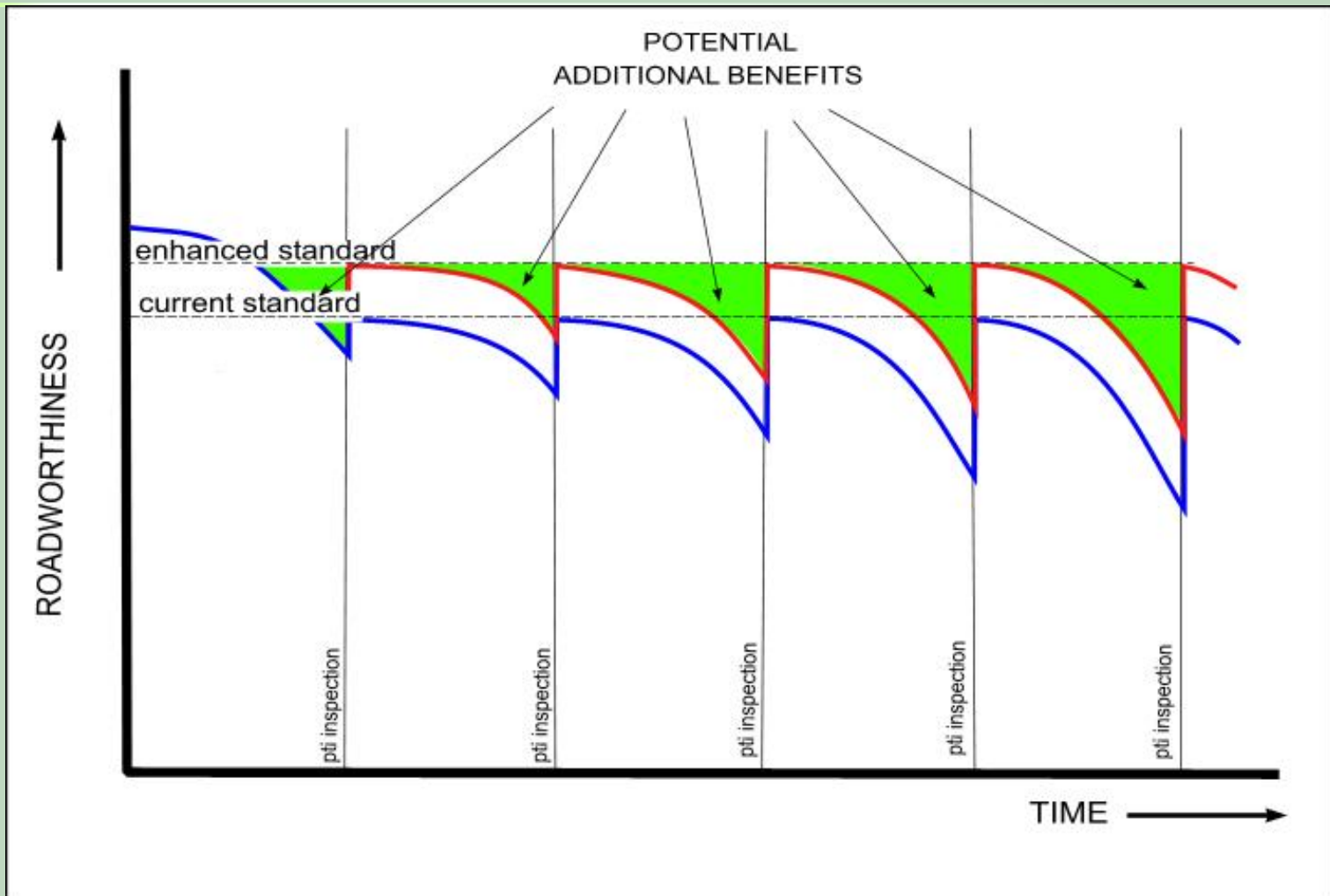
- ***Roadworthiness enforcement** is defined as all activities that are undertaken independently of the owner or operator to verify vehicles remain roadworthy while in use on public roads.*
- *The **purpose** of roadworthiness enforcement is to ensure that the benefits accruing from the original design and manufacture of vehicles are retained, where justified, throughout the life of those vehicles.*

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## *Strategies*

- A conceptual framework is developed that includes definitions of roadworthiness, the purpose of roadworthiness enforcement and the means of improvement. A strategy for change is proposed that will introduce, where justified:
  1. Higher roadworthiness standards before a vehicle can be classed as being roadworthy.
  2. Broadening the scope of the standards to include items that currently are not included but are worth preserving and to include vehicle types currently not controlled.
  3. Methods of improving the level of compliance.

# 'Autofore' *Strategies*



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## Options

	Strategy versus Opportunity	Raise standard of vehicle roadworthiness	Broaden scope of roadworthiness enforcement	Improve compliance
1	Time of first inspection	X		X
2	Frequency of inspection	X		X
3	Inspection failure criteria	X		
4	Inspection technical database	X		
5	Standardised database with inspection results	X		
6	Extension of PTI to other items		X	
7	Extension to include other vehicle categories		X	
8	Increased levels of roadside inspection	X		X
9	Remote technical inspections	X	X	X
10	Strengthen the maintenance obligations for commercial vehicle operators	X		X
11	Promotion of fleet management systems			X
12	Rating of heavy vehicle fleets			X
13	Fleet audits as a targeted supplement to PTI and roadside inspections			X
14	Vehicle durability rating			X
15	Inspection at significant milestones		X	X
16	Vehicle and component recalls		X	X

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More info

- Look on

[www.cita-  
vehicleinspection.org](http://www.cita-vehicleinspection.org);

and follow link

# THANK YOU

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