Advanced Emergency Braking System
/
Lane Departure Warning System

OICA POSITION
Summary

Data: EU, F, J

Scope and justifications for a future UNECE regulation

Requirements for AEBS

Requirements for LDWS

Organization of the work
Fatalities and Serious Injuries by Vehicle Category (EU19)

Fatalities and serious injuries for accidents with at least one light vehicle

- 60.0%
- 16.2%
- 15.6%
- 5.5%
- 0.5%
- 2.2%

Light vehicles mainly collide with each other

Fatalities and serious injuries for accidents with at least one heavy commercial vehicle

- 47.3%
- 8.3%
- 16.1%
- 12.7%
- 10.3%
- 5.4%

Heavy commercial vehicles mainly collide with light vehicles

When 1 HCV involved, nearly ½ of all serious injuries and fatalities occur in light vehicles.

Source: CARE, EU19 in 2006 (LAB)
Accidents Caused by Large Trucks by Accident Type (Japan)

- Rear-end collision: 55%
- With pedestrians: 4%
- Head-on: 3%
- Single vehicle: 2%
- Others: 18%
- Left turn: 5%
- Right turn: 5%
- Intersection corners: 8%

When 1 HCV involved, more than ½ of all accidents are rear-end accidents

Source: Macro Accident Data Japan 2005
Fatalities and Serious Injuries by Accident Type (France)

The part of front-rear accidents is nearly the double for HCV compared to light vehicles.

Conclusions about available data:
The efficiency of one given AEBS/LDWS varies according to the vehicle category (slide 3).

The efficiency of a system potentially preventing front-rear accidents is nearly the double on a HCV compared to a light vehicle (slides 4 & 5).
### Current Situation for Advanced Vehicle Systems

<table>
<thead>
<tr>
<th>Warning Systems</th>
<th>Active (intervening) Systems</th>
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<tbody>
<tr>
<td>Advanced Vehicle Warning Systems already exist on a few vehicles</td>
<td>No safety need for rulemaking when voluntarily fitted</td>
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<tr>
<td>Advanced Vehicle Active Systems already exist on a few vehicles (acting on braking or steering)</td>
<td>Safety is ensured by CEL Annex of UNECE R13/13H and R79</td>
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With regard to existing regulations, additional rulemaking has the only purpose to align the provisions if the systems are fitted or required.
Installation of AEBS/LDWS

EU is the first region to require installation of AEBS and LDWS on some categories

**Scope** proposed by EC:
"Vehicles in Categories M2, M3, N2 and N3 shall be equipped with an AEBS/LDWS which shall meet the requirements of this Regulation."

**Timeframe** proposed by EC:
- 29 October 2013 for New Types
- 29 October 2015 for New Registrations

In order not to waste time and resources, **future UNECE Regulations on AEBS and LDWS should be “if fitted” requirements based on the scope proposed by OICA and the timeframe for mandatory installation proposed by EC.**
Mileage data helps defining the relevant scope

Average vehicle mileage:
- > 12 tonnes: 135,000 km/year
- 7 – 12 tonnes: 60,000 km/year
- < 7 tonnes: 17,000 km/year

Source: VDA 2007
Implementation of new UNECE Regulation

The systems are the most efficient on the following categories:

- M3 Class II and III, > 12 t
  - 4 x 2 and 6 x 2
    (exception for M3G)
  and
  - N3 > 16 t
    - 4 x 2 and 6 x 2
      (exception for N3G)

Should the installation be unavoidable, OICA recommends to limit the scope to these categories.

A reasonable limitation of the scope is also necessary to respect the EU time frame.
Requirements for AEBS

Some systems already available

- Avoid unnecessary packaging
- Keep legal flexibility for non EU CPs
- Aim: Collision avoidance

Currently no specific regulation

AEBS to be introduced into a new UNECE regulation

No need to regulate categories where system is not required

This regulation to be separated from LDWS

Aim: Collision mitigation/reduction

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Requirements for LDWS

- Some systems already available
- Currently no specific regulation
- No need to regulate categories where system is not required

UNECE R79 covers active systems
- Keep legal flexibility for non EU CPs
- LDWS to be introduced into a new UNECE regulation
- This regulation to be separated from AEBS
- Aim: warning only

Provisions should:

| be technology neutral | be performance based | Be based on ISO17361 technical provisions | Avoid direct references to ISO standards |
Organization of work

**EU dates**
- October 2013 for New Types
- October 2015 for New Registration

**Time frame**
- Time frame for development of the new regulation should be compatible with the introduction dates

**Content**
- Content of the regulation should be compatible with the introduction dates

**Optimization of the resources**
- One informal working group is sufficient