Improve Road Safety – Target the Main Cause Effectively

UNECE Road Safety Seminar
Minsk, 13 May 2009

Jens Hügel
Head Sustainable Development
Evolution of IRU Membership

Created 1948

8 Founder States:
- Belgium
- Denmark
- France
- Netherlands
- Norway
- Sweden
- UK
- Switzerland

2009
180 Members
74 Countries
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1948</td>
<td>IRU founded in Geneva</td>
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<tr>
<td>1973</td>
<td>IRU Permanent Delegation to the EU established in Brussels</td>
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<td>1998</td>
<td>IRU Permanent Delegation to the CIS established in Moscow</td>
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<td>2005</td>
<td>IRU Permanent Delegation to the Middle East established in Istanbul</td>
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IRU Priorities 2009 – Overview

- Sustainable Development
  - Innovation
  - Incentives
  - Infrastructure
- Facilitation
  - Trade
  - Tourism
  - Road Transport

These are also the priorities of the IRU Academy

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The IRU supports all measures that improve road safety if they effectively target the main causes of accidents involving trucks.
Expert teams *investigated on site* more than 600 accidents involving trucks over 2 years.

Investigations were based on a *scientific, widely accepted and internationally benchmarked methodology*.
ETAC Study - Methodology

- Experts cooperate with emergency services.
- Expert teams check selection criteria:
  - the accident involves at least one truck (over 3.5t)
  - the accident resulted in at least one injured person
  - the vehicles are still in their final accident position
- Investigation and data collection on spot
- Data analysis and data verification
ETAC Study – Data Base

- Accident reconstruction
- describe the accident causation sequence
- identify critical situations
- analyse malfunctions
- categorise accident types

Identify the main causes of accidents involving trucks
Accident Categories

- 7.4% Single truck
- Truck and other road user (vehicles and/or pedestrian)
  - 27.0% Accident at intersection
  - 20.6% Accident in queue
  - 19.5% Accident due to lane departure
  - 11.3% Accident after an overtaking manoeuvre
Main Cause: The human factor

624 accidents showed the main cause of the accident is human error.

However, from the 85.2% linked to the human error, 75% were caused by other road users!

Source: EU, IRU
Main cause of an accident: Truck / Other road user

The top main causes for accidents between a truck and other road users are, according to the mentioned accident configurations:

1- Non-adapted speed
2- Failure to observe intersection rules,
3- Improper manœuvre when changing lanes.
Load and fatigue: NOT a main cause

- Loss of load,
- Overload,
- Unbalance of the load,
- Insufficient load securing

- The load of the truck was the main cause of the accident in only 1.4%.
- Despite common belief, fatigue was the main cause in only 6% of the accidents.

ETAC Investigation
## Recommendations

Manufacturers &
Infrastructure providers/developers

<table>
<thead>
<tr>
<th>Main Human Factors</th>
<th>Manufacturers</th>
<th>Infrastructure providers/developers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Non-adapted speed</strong></td>
<td>- Adaptive cruise control</td>
<td>- Effective traffic signing</td>
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<tr>
<td></td>
<td>- speed control systems related to the used infrastructure</td>
<td>- traffic warning regarding speed limits</td>
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<tr>
<td><strong>2. Failure to observe intersection rules</strong></td>
<td>- Ultrasonic guard system for collision zones</td>
<td>- Improve visibility of traffic signs</td>
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<td>- vehicle to vehicle communication</td>
<td>- effective traffic signing</td>
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<td></td>
<td>- blind spot mirrors</td>
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<tr>
<td><strong>3. Improper manoeuvre when changing lanes</strong></td>
<td>- Lane guard system</td>
<td>- Special focus on the road surface (road friction)</td>
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<td>- turning and lane change assistance</td>
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<td>- traction and stability control system</td>
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<td>- active roll stabilisation</td>
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</table>
### Recommendations

#### Governments & Media

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<thead>
<tr>
<th>Main Human Factors</th>
<th>Governments</th>
<th>Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Non-adapted speed</td>
<td>- Increase enforcement regarding non-adapted speed</td>
<td>- Awareness campaigns on speeding and safety distance</td>
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<td></td>
<td></td>
<td>- Objective and fact-based report on accidents' causes</td>
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<tr>
<td>2. Failure to observe intersection rules</td>
<td>- Revising driving school programmes to help understand truck manoeuvres</td>
<td>- Awareness campaigns to explain truck manoeuvres</td>
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<tr>
<td></td>
<td>- Awareness campaigns regarding intersection rules</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increase enforcement</td>
<td></td>
</tr>
<tr>
<td>3. Improper manoeuvre when changing lanes</td>
<td>- Plan and maintain safe road infrastructure appropriate to current and foreseeable traffic demand</td>
<td>Awareness campaigns on:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- speeding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- safety distance</td>
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<tr>
<td></td>
<td></td>
<td>- driving manoeuvres of truck</td>
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</tbody>
</table>
## Recommendations

### Truck Drivers & Other road users

<table>
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<tr>
<th>Main Human Factors</th>
<th>Truck Drivers</th>
<th>Other Road Users</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Non-adapted speed</strong></td>
<td>- Adapt your speed to traffic and weather conditions</td>
<td>- Adapt your speed according to traffic and weather conditions</td>
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</tbody>
</table>
| **2. Failure to observe intersection rules** | - Plan the trip in advance  
- remember limitations of your visibility  
- anticipate problems  
- respect traffic regulations at all time | - Increase driving experience by refresher training  
- respect traffic regulations at all time |
| **3. Improper manoeuvre when changing lanes** | - Increase driving experience by refresher training | - Increase driving experience by refresher training |
The Minsk Recommendation

1. Don’t talk but act! don’t do just everything!
2. Analyse the main cause of an accident – the ETAC methodology, database and tools are yours to take!
3. Target the main cause of an accident involving a truck effectively!

“ITAC”
Int. Truck Accident Causation Study

“CIS-TAC”
CIS Truck Accident Causation Study
5th Euro-Asia Conference: Almaty

11-12 June 2009!
Working together for a better future

since 1948