

# INTERNATIONAL PRAISE SEMINAR

PREVENTING ROAD ACCIDENTS AND INJURIES FOR THE SAFETY OF EMPLOYEES



## Identification, Evaluation and Prevention of Occupational Road Risks in France

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# The situation in France and in the world, last data 2015

- In France road accidents are the first cause of fatalities at work = around 53% of fatalities
- 14% of the road fatalities every year, i.e. 483 people killed on 3616
- In the world : 36% of occupational deaths are due to road crashes
- In the world, 25% of crashes are work-related

# Importance of the home-work trips

People killed on a home-work trip	359
People injured on a home-work trip	3452
People killed on a mission trip	124
People injured on a mission trip	1068

# Type of accidents

	week days	Gender	15-24 y.	Alcohol
People killed on a home-work trip	87%	77% males	18%	2%
People killed on a mission trip	94%	87% males		1%
All accidents	63%			
Proportion in active population		52%	9%	

# Type of trips

- Home-work trips are 27% of all local trips
- Average time is 50 minutes, with important regional disparities
- 59% of people killed in a home-work trip are car occupants, 33% are two wheels drivers
- On work trips : trucks are 34%
- More in mornings and ends of afternoon, 77%

# Economics

- In France : 5,300,000 work days lost/year – like a company of 25,000 employees out of work every year;
- In the world : 518 billion USD per year
- Need to have road safety embedded in the Corporate Social Responsibility

# Actions in France

- Actions developed together with the State, the trade institutions, the research institutes, the employers and the national social insurance system;
- Legislative obligation (Code of work L4121-1) : Unique Document of evaluation of work risks (DUER) for companies under 500 employees since November 2001: analyses of risks according to type of work, evaluation and prioritization, plan of action to improve safety
- Social obligations of the employers regarding the application of Directive 89/391 → signature of commitments.

# Variety of actors involved

## **Alcool assistance**

[www.alcoolassistance.net](http://www.alcoolassistance.net)

**ANPAA** (Association nationale de prévention en alcoologie et addictologie)

[www.anpaa.asso.fr](http://www.anpaa.asso.fr)

**ASFA** (Association des sociétés françaises d'autoroutes)

[www.autoroutes.fr](http://www.autoroutes.fr)

## **Association prévention routière**

[www.preventionroutiere.asso.fr](http://www.preventionroutiere.asso.fr)

**CGSS** (Caisse générale de sécurité sociale)

[www.cgs-\(nom du département d'outre-mer\).fr](http://www.cgs-(nom du département d'outre-mer).fr)

**CARSAT** ou **CRAMIF** - site dédié dans chaque région

[www.carsat-\(région\).fr](http://www.carsat-(région).fr)

**CERTU** (Centre d'études sur les réseaux, les transports, l'urbanisme et les constructions)

[www.certu.fr](http://www.certu.fr)

**CIRDD** (Centre d'information régional sur les drogues et les dépendances)

[www.cirdd-\(nom région\).fr](http://www.cirdd-(nom région).fr)

## **CLUB D'ENTREPRISES PROSUR**

[www.carsat-alsacemoselle.fr](http://www.carsat-alsacemoselle.fr)

**CNAMTS** (Caisse nationale d'assurance maladie des travailleurs salariés)

[www.ameli.fr](http://www.ameli.fr)

**DSCR** (Délégation à la sécurité et à la circulation routières)

[www.securite-routiere.gouv.fr](http://www.securite-routiere.gouv.fr)

**IFSTTAR** (Institut français des sciences et technologies des transports, de l'aménagement et des réseaux)

[www.ifsttar.fr](http://www.ifsttar.fr)

**INRS** (Institut national de recherche et de sécurité)

[www.inrs.fr](http://www.inrs.fr)

**MILDT** (Mission interministérielle de lutte contre la drogue et la toxicomanie)

[www.drogues.gouv.fr](http://www.drogues.gouv.fr)

## **Ministère du travail, de l'emploi, de la formation professionnelle et du dialogue social**

[www.travailler-mieux.gouv.fr](http://www.travailler-mieux.gouv.fr)

**OVE** (Observatoire du véhicule d'entreprise)

[www.observatoire-vehicule-entreprise.com](http://www.observatoire-vehicule-entreprise.com)

**OFDT** (Observatoire français des drogues et des toxicomanies)

[www.ofdt.fr](http://www.ofdt.fr)

**OPPBTP** (Organisme professionnel de prévention du bâtiment et des travaux publics)

[www.preventionbtp.fr](http://www.preventionbtp.fr)

**PSRE** (Promotion et suivi de la sécurité routière en entreprise)

[www.asso-psre.com](http://www.asso-psre.com)

**SETRA** (Service d'études sur les transports, les routes et leurs aménagements)

[www.setra.equipement.gouv.fr](http://www.setra.equipement.gouv.fr)

## **Vivons prévention**

[www.vivons-prevention.com](http://www.vivons-prevention.com)



## However ...

- Evaluation in 2014 : only 47% of companies under 500 employees had created a DUER
- Among those who had created a DUER, only 68% had included the traffic risk
- Much less traffic safety actions in small companies than in big ones : no person identified as in charge of the road risk
- Since 2012, they should have a referent for health and safety (however, low in the hierarchy which is bad for the credibility)

## However ...

- Other problems :
- no global and transversal perspective of road safety among the various actors, lack of time of managers to deal with the issue, lack of training of managers (except for the trucks companies, the dangerous goods transport who have initial and continuous training)
- Confusion between prevention and animation (showing videos, « barrel-car ») but without solutions as for other work risks (falls, stowage, etc)

# To improve the situation

- Quality norm for traffic safety management : ISO 39001
- Only in English, in French since 2016
- Fixing of objectives, improvement strategies
- Two way of uses :
- -buy the book (153 Euros) and adapt it to the situation and means of the company
- -preparation of a certification with an independent audit
- We have to overcome the fear of measurement by companies !

# To improve the situation

- Kit of road risk prevention by the association La Prevention Routiere (posters, flyers, information sessions)
- Days of training by private specialized preventors on various issues

# To improve the situation

- Creation of a new charter of occupational road risk prevention by the Ministry

# The new French charter of occupational road risk prevention

- 1.A.1 : Proceed to a preliminary evaluation
- Measure the frequency and severity all of traffic occupational hazards compared with other companies of the industry.
- Description of actions
  - > Know and understand statistics of traffic crashes (commute, mission trip):
    - Reminder of the definitions of the frequency and severity.
  - > Understand that a prevention policy must rely on the extreme seriousness of the risk despite its low occurrence.

# The new French charter of occupational road risk prevention

> Measure the economic (direct and indirect costs), social (human, image of the company) and legal impact of a serious accident.

Conditions for success:

> Assess the risk from the statistics of the company even if they are often little significant.

> To recognize oneself in the general statistics of the profession.

> Ask your prevention organization (CARSAT, OPPBTP) the statistics of your activity.

> Get closer to your insurer that has statistics of your profession.

- Advantages:

- > Having reference statistics.

- > Develop a credible argument for raising awareness in the company.

# The new French charter of occupational road risk prevention

- 1.B.1 Involve employees in the approach with the dual purpose to collect returns of experience and to identify needs.
- Description of actions
  - > Promote the expression of employees, in consultation with the prevention stakeholders, with suggestion boxes, surveys, meetings, etc.
  - > Formalize the feedback to use in the process and return to the employees.
  - > Include a space for expression in the Vehicle Tracking book (card 4C1).



# The new French charter of occupational road risk prevention

- Conditions for success
  - > To initiate the expression of employees by explaining the interest of the action.
  - > Promoting the expression in confidence.
- Advantages
  - > Developing the social dialogue.
  - > Meeting expectations.
  - > Organizing targeted campaigns.
  - > Completing understanding of risk by the qualitative feedback

# The new French charter of occupational road risk prevention

- 1.C.1) Assess the traffic risk in the company and define a policy prevention.
- Description of actions :
  - > Establish a working group with managers, commercial employees, machine operators .
  - > Use and exploit the accident records and the return of employee experience.(See sheets 1 E).
  - > Integrate road risk in the unique document

## Conditions for success

- > Conduct periodic self-diagnosis to measure the importance of road risk in the company prevention plans.
  - > Preventing road risks is anticipating travel conditions: weather, road conditions, distances, vehicle gauge, loads to carry.
  - > Promoting the availability of participants
- Advantages :
    - > To obtain a shared diagnosis

# Dashboard

## Trips home-work

Type de transport	Type de véhicule	Responsabilité d'un tiers		Nombre de sinistres	Nombre d'accidentés par sinistre
		oui	non		
Véhicule personnel	VL				
	Deux-roues				
Véhicule entreprise	VUL				
	VL				
Transport en commun	Bus, car				
Autre					

# Dashboard

## MISSION

Type de transport	Type de véhicule	Type de mission 1 : visite de chantier 2 : approvisionnement du chantier		Responsabilité d'un tiers		Nombre de sinistres	Nombre d'accidentés par sinistre
		1	2	oui	non		
Véhicule personnel	VL						
	Deux-roues						
Véhicule entreprise	VUL						
	VL						
	Poids lourds						
	Engin de chantier						
	Autre						
Transport en commun	Bus, car						
Véhicule de location							
Taxi VL							
Taxi deux-roues							
Autre							

# Dashboard

## Workers as pedestrians

Accidents survenus durant le :	Type de véhicule ayant heurté les travailleurs	Nombre d'accidents	Nombre d'accidentés	Responsable de l'accident		
				Autre salarié	Usager	Autres
<b>Trajet domicile-travail</b>	VUL					
	Deux-roues					
	VL					
	Car, bus, poids lourds					
	Autre					
<b>Déplacement en mission</b>	VUL					
	Deux-roues					
	VL					
	Car, bus, poids lourds					
	Autre					
<b>Travaux sous circulation</b>	VUL					
	Deux-roues					
	VL					
	Car, bus, poids lourds					
	Camion					
	Engin de chantier					

# Dashboard

Accident avec un véhicule			
Circonstances	h) Date	<input type="checkbox"/>	
	i) Horaire	<input type="checkbox"/>	
	j) Lieu	ville	<input type="checkbox"/>
		hors agglomération	<input type="checkbox"/>
	k) Type de voie	autoroute	<input type="checkbox"/>
		R	<input type="checkbox"/>
		RD	<input type="checkbox"/>
		voie communale	<input type="checkbox"/>
	l) Conditions de circulation	jour	<input type="checkbox"/>
		nuit	<input type="checkbox"/>
		pluie	<input type="checkbox"/>
		verglas	<input type="checkbox"/>
		neige	<input type="checkbox"/>
		brouillard	<input type="checkbox"/>
	m) Emplacement du choc	avant	<input type="checkbox"/>
		latéral gauche	<input type="checkbox"/>
		latéral droite	<input type="checkbox"/>
arrière		<input type="checkbox"/>	
n) Conséquences nombre de jours d'arrêt de travail.....	<input type="checkbox"/>		
o) Observations et compléments : ..... ..... ..... .....			

# Data analysis

- 1.F.1) Better understand Accident Causation in order to identify preventive actions.
- Description of actions :
  - > Create a working group to analyze the data
  - > Identify accident scenarios characteristics.
  - > Identify recurring causes.
  - > Integrate "near misses".
  - > Complete the dashboard.
- Conditions for success :
  - > Go to the root causes of the accident.
  - > Conduct a factual analysis without searching personal responsibility in the following fields: organization of travels, equipment and vehicle condition, communications management, skills of drivers.

# 4.F.1) Information and sensitization of employees about behavior

- Description of actions :
- Present and comment single document.
  - > Communicating prevention policy of the company and actions associated (see sheet 2A1).
  - > Involve safety committees for the choice of means to inform and educate road risk.
  - > Disseminate information materials made on this theme.
  - > Organize training involving prevention institutions and police
  - > Implement periodical prevention quarters of an hour: loss of license, alcohol, drugs, medications phone while driving, speed, etc.
  - > Organize awareness sessions with partners (driving simulator, “barrel car”, testimonies).



## 4.F.1) Information and sensitization of employees about behaviors

- Conditions for success
  - > Make tools understandable by all media
  - > Renew awareness sessions in different shapes.
  - > Train the person in charge of the safety quarter hour.
- Advantages :
  - > Sustaining the individual application of the provisions of prevention through awareness all staff...
  - > Improve communication, exchanges within teams and information transmission.

# 4.F.1) Information and sensitization of employees about alcohol, licit and illicit drugs

- Description of actions :
  - > Provide information on the alteration of the driving capacity (reaction time, lateral and depth vision, overestimation of abilities, toxic combinations).
  - > Inform on the possible sanctions and the extent of detection devices.
  - > Inform on the jurisprudence (responsibilities of employer, delegates, employees).
  - > Stimulate alertness at company level for the detection of risk situations.
  - > Raise awareness of social risks.
  - > Involve the occupational physician in actions.

## 4.F.1) Information and sensitization of employees about alcohol, licit and illicit drugs

- > To provide drivers with means of B.A.C. control (breathalyzer).
- Conditions for success :
  - > Avoid trivializing, dramatizing or guilt
  - > Distinguish occasional consumption and addictions.
  - > Involve staff representatives
  - > Act respecting the anonymity and privacy.
  - > Accept a medium and long-term impact

# Other good practices

- 1) US Together for safer roads coalition (Chevron, Ford, GM, IBM, Abinbev, Erikson, ATT, AIG, Pepsico, Facebook, Walmart, etc.)
- [www.TogetherforSaferRoads.org](http://www.TogetherforSaferRoads.org)
- Guidelines based on the 5 pillars of the decade : Road Safety Management, Safer Roads, Safer Vehicles, Safer Road Users, Safer Post-Crash Response

# TSR

- A) Road Safety management (ISO 39001, Chevron 9 requirements, managing external contractors, data collection and analysis, etc)
- B) Safer roads : journey planning, hazardous routes mapping, etc
- C) Safer vehicles : selection corresponding to the tasks, safety features (lane departure warnings, automatic braking system, electronic stability control, speed controls, seatbelts alarms, etc), maintenance , inspection and turnover of vehicles
- D) Safer road users : incentives and disincentives, drivers' selection, training, assessment, use of telematics and management
- E) Post-crash response : reporting and investigation

# Other good practices

2) Australia : *Safety audit tools* assessing fleet safety management practices

Practice categories are : management, monitoring and assessment of drivers, employee recruitment, training and education, performance-based incentives and disincentives, vehicle technology, selection and maintenance, journeys monitoring. Each of these categories have sub-categories and a notation grid.

Mitchell et al. *Accident, Analysis & Prevention*, 47, 102-118, 2012.

# Other good practices

Australia : *Comparison of the effectiveness of various types interventions for behavioral modifications in fleet drivers* (such as driving skills training, group discussions, goal settings and feedbacks, etc.) and more generally the interventions at organizational, group and individual levels

Newman et al. (*Safety Science*, 49, 369-381, 2011)

# Interactions of levels

- The Accimap technique (Rasmussen ): integrate the relationships between government, associations, company, management and staff and analyze fleet safety from a systemic point of view.
- in a systemic way, we have to analyze how "macro" factors impact fleets safety : road/rail ratio, unemployment, alcohol policies, etc.
- In a safe system approach, we should check also if fleet safety of a company covers well the 9 cases of the Haddon matrix. And finally if the other stakes than safety are also covered : protection of the environment (eco-driving, road/rail ratio), rights of employees.



# The Haddon matrix

The Haddon matrix

	Before the injury	During	After
Individual			
Agent			
Environment			

# Other good practices

## 3) Profiling fleet drivers :

Risk index of driver's profile obtained from naturalistic studies' data with in-vehicle data recorder

Data recorders have been associated with a crash reduction of 20% in the European SAMOVAR project.

Fleet drivers assessment tool (UK telecommunication sector) with a statistical model linking attitudes, behaviors, knowledge and hazard perception.

Manchester Driver Behavior Questionnaire measuring self-declared lapses, errors and violations, which have been validated by many studies.

# Other good practices

- Profiling drivers may take into account various characteristics : ageing, gender, type of vehicle, distractors, fatigue and working times, job turnover, obesity, sleep apnea, drugs use, illnesses, muscular problems, etc. There have been also a few interesting studies comparing how the same person drives his/her personal vehicle and the professional one. Preventive learning may be drawn ...

# Other good practices

- So, not only crashes to be recorded but also violations
- Safety culture to be transmitted (about alcohol, etc), CEO's should give the good example ...

- 4) The European road safety charter
- 2300 companies and institutions have signed it (SNCF, Pernod Ricard, Sanofi); however slowing down of the recruitment
- Deals with customers and employees safety;
- Supports road safety campaigns;
- Sets up road safety awareness and training programs like eco-driving, choice of the surest vehicles (fleet management);
- Prevents the use of mobile phone while driving: management of the communication within the company;
- Shares its views with other companies which are customers;
- Duration of the charter = 4years + follow-up Committee;
- Signature by Road Safety authorities, social insurance and CEO's.

# 5) The OiRA project (Online interactive Risk Assessment)

- Background: The European Community Strategy for health and safety at work 2007-2012:
  - > Develop risk assessment (1989 Directive) in small businesses (<50 employees)
  - > Obstacles to prevention in small businesses identified in the whole EU:
    - No preoccupation
    - Lack of skills
    - Need of accompaniment

The OIA Project of the European Bilbao Agency (OSHA) is the first and main EU initiative to address this problem

- Project inspired by a successful experiment in the Netherlands where 172 tools have been developed since 2004

Official Launch September 2011

# The tool

- OiRA: Online interactive Risk Assessment  
Key features:

- > Free

- > Easily accessible

- > Sectorial

Tool developed on a free software. IT developments made for by the European Bilbao Agency (OSHA), sectorial developments supported by national partners (agencies, social partners, public authorities)  
Requires a Web-connected computer with a recent browser:

- > Preferably Mozilla Firefox, Chrome or Safari

- > The default Internet Explorer in a new version: IE9, IE8

# To know more about OIRA

- > <http://www.oiraproject.eu>
- > Lorenzo Munar : [munar@osha.europa.eu](mailto:munar@osha.europa.eu)
- To test the tool :
- > <http://client.oiraproject.eu>
- Contact in France : INRS :
- Mission TPE/PME
- > Marc Malenfer : 01 40 44 14 28, [marc.malenfer@inrs.fr](mailto:marc.malenfer@inrs.fr)



## 6) Some good practices about : speeding

- Risk perception of speeding by employees and employers is the key!
- 4 characteristics of enforcement: probability,
- swiftness, equity, severity
- See recent French measure: responsabilization of employers, must give the name of their employees for a speed violation, otherwise 650 Euros fee!

# Other good practices

- ## 7) Interlocks

- Annecy evaluation:
- Assailly, J.P., Cestac, J. (2014). Alcohol Interlocks and Prevention of Drunk-Driving Recidivism, *European Review of Applied Psychology*,
- ERAP Special Issue N°64-3: Transport Psychology: Identification of Road Users' Risks and Attitudes and Behavior Change.
- 5 years follow-up of participants to the program (N=175) and of a control group (N=234 offenders without interlock)
- Before and after recidivism
- Interlock : 26% versus 35%
- Transtheoretical model of Prochaska et Di Clemente (1984), and
- DRUID's Diamond of change model : awareness precedes
- Environmental reevaluation and reinforcements management.

# Recent interlocks data in the US

- Data from the National Highway Traffic Safety Administration 1999 to 2013.
- From 2004 to 2013, 18 states made interlocks mandatory for all drunk-driving convictions. Alcohol-involved crash deaths between 18 states with and 32 states without universal interlock requirements, accounting for state and year effects, and for clustering within states.
- Policy impact was apparent 3 years after implementation : 4.7 per 100000 in states with the universal interlock requirement, compared with 5.5 in states without.
- Conclusions. Requiring ignition interlocks for all drunk-driving convictions was associated with 15% fewer alcohol-involved crash deaths, compared with states with less-stringent regulations.

## 8) Managing young drivers

- The incident rate of young workers (18-24) was almost 41% higher than for older workers in the land transport sector in 2012 (Eurostat)
- The rate of work-related road collision decreases with age (IBSR).
- A special focus should be taken when considering young drivers reinforced by specific Directive 94/33/EC on protecting young people at work.

Managing young drivers should be an important part of managing road safety at work.

- Historical evolutions (PRAISE Reports) :
- 2000-2010 : traffic fatalities of 15-30 years-old divided by 2
- 1970-2010 : by 5
- Still over-risk(15% of population, 25% of fatalities, 30% of severe injuries) but why expect better? Dual neurobiological agenda
- Gender stereotypes and agenda of feminism issues
- Have the adults done better? No ! Systemic evolutions.
- But : the cost of the killed(OECD : 1.7 M euros; today:
- 3M ...)
- • And also the Rhone register: danger for self, danger for
- others(older drivers are less dangerous)