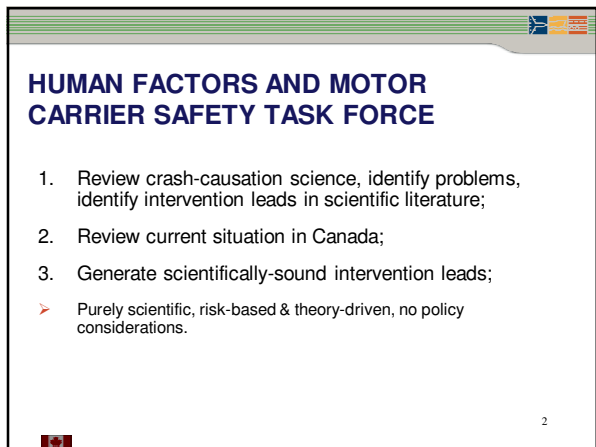


**ADDRESSING HUMAN FACTORS IN THE
MOTOR CARRIER INDUSTRY IN CANADA**

Pierre Thiffault, Ph.D.
Chair of CCMTA's Human Factors and Motor Carrier Safety Task Force

Petroleum Safety Conference
Banff, May 2nd 2012

Canada

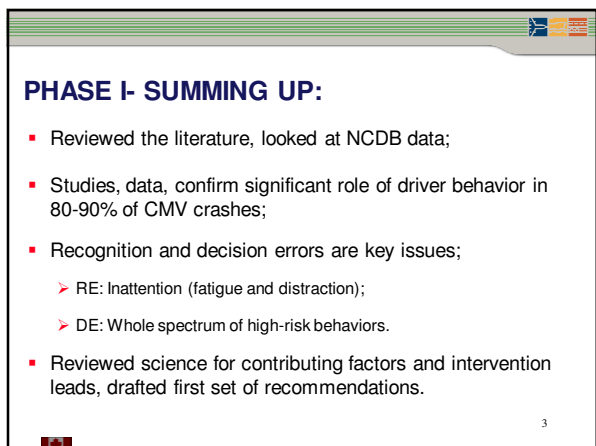


**HUMAN FACTORS AND MOTOR
CARRIER SAFETY TASK FORCE**

1. Review crash-causation science, identify problems, identify intervention leads in scientific literature;
2. Review current situation in Canada;
3. Generate scientifically-sound intervention leads;

➤ Purely scientific, risk-based & theory-driven, no policy considerations.

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PHASE I- SUMMING UP:

- Reviewed the literature, looked at NCDB data;
- Studies, data, confirm significant role of driver behavior in 80-90% of CMV crashes;
- Recognition and decision errors are key issues;
 - RE: Inattention (fatigue and distraction);
 - DE: Whole spectrum of high-risk behaviors.
- Reviewed science for contributing factors and intervention leads, drafted first set of recommendations.

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PHASE II- SUMMING UP

- Conducted three online surveys:
 - Carrier survey (56 carriers);
 - Industry association survey (6);
 - Government survey (CRA members).
- Conducted analysis of NSC;
- Phase 1 draft recommendations stand, reinforced.

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**PHASE III
SUGGESTED STRATEGY**

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FATIGUE

- HOS regulations alone are not sufficient;
 - EOBRs;
 - Evaluation of impacts of regulation.
- Investigate determinants of decision to keep driving while drowsy;
- Investigate the impacts of the macroergonomics of the industry on CMV driver fatigue;

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FATIGUE (CONT'D)

- Scrutinize training curricula in light of criteria listed in report;
 - If not covered, develop material, promote inclusion;
 - Should also be covered in testing and licensing.
- Promote voluntary adoption of NAFMP, include results of recovery/napping study;
- OSA: Promote NAFMP, consider upcoming development in the U.S. as well as results from CCMTA's OSA working group;

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FATIGUE (CONT'D)

- Investigate further fatigue detection technologies;
- Promote crash avoidance technologies (ESC, FCWS, LDWS);
- Review results of TC study on rest areas, develop global Canadian perspective;
- Review Canadian situation with regards to central and lateral rumble strips, develop safety and business cases to promote the adoption of the intervention.

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DISTRACTION

- Investigate determinants of decision to use distractors while driving;
- Scrutinize training curricula in light of criteria listed in the report;
 - If not covered, develop material and promote inclusion;
 - Material should also be covered in testing and licensing.
- STEP programs to enforce driver distraction legislations;
- Promote fleet interventions, provide guidelines to industry;

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DISTRACTION (CONT'D)

- Inventory current in-vehicle technologies with potential for distraction (OEM and nomadic devices), for driving and non-driving tasks;
- Investigate their distracting potential, independently and in combination, establish effects on driving performance;
- Assess how telematics devices are being developed;
- Ensure industry is following human factor design processes;

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DISTRACTION (CONT'D)

- Special attention to fleet dispatching and fleet communication devices as well as instrument panels;
- Texting, hand-held cell phones banned from all trucks and buses;
- Situation with hand-free phones needs further investigations.

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HIGH-RISK DRIVING

- Driving style vs. driving skills;
- Passive & active safety;
- New paradigm to include revisited, theory-driven active safety interventions together with passive safety efforts;
- Risky driving, a multifaceted problem, needs multifaceted solution.

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HIGH-RISK DRIVING

- Investigate determinants of risky driving for CMV drivers in Canada;
- Develop test battery to be used by:
 - Carriers in driver improvement programs and/or;
 - Government-based intervention scheme oriented at high-risk drivers.

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HIGH-RISK DRIVING (CONT'D)

- Develop training strategies:
 - Knowledge on high level determinants of risky driving;
 - Changing drivers attitudes, beliefs, subjective norms;
 - Improving hazard perception skills.
- To be made available to driver training community, industry, governments;

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HIGH-RISK DRIVING (CONT'D)

- Create health & wellness program aimed at promoting health-enhancing lifestyle that will positively impact on CMV drivers' health and safety on the roads;
- Develop state-of-the-art SMS especially crafted for the Canadian motor carrier industry;
- Develop state-of-the art incentive program especially crafted for the motor carrier industry in Canada;
 - Programs to be made available to the industry and applied on a voluntary basis;
 - Safety and business cases.

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HIGH-RISK DRIVING (CONT'D)

- Promote STEP programs like TACT as well as OSD to address LV/CMV interactions;
- Explore possibility of using Driver Behavior Monitoring Systems (DBMS) approach at large and/or in the context of driver improvement programs.

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TASK FORCE MEMBERS

TC - P. Thiffault (Chair)	CTA – G. Wood
QC – P. Gobeil (Vice-chair)	Teamsters – P. Benson
TC - P. Boase/A. Chouinard	MCC – B. Crow/D. Carroll
TC - /S. Peddie	OBAC – J. Ritchie
YT – T. Erman	PMTC – B. Richards
PE – G. Miner	PSAC – P. Delaney
ON – C. Brant/G. Stewart	HSRT – J. Goss
QC – E. Morasse	CCMTA – V. Todt
BC – G. Gilks	
FMCSA – M. Walker	
CBA – D. Haire	

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http://www.ccmta.ca/english/pdf/human-factors_report_May_2011.pdf

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