

Truck & Bus Operator Health and Wellness Subcommittee (ANB70)

Status Report

Meeting at TRB 11 January 2010

Chair: Gerald P. Krueger

JerryKrueg@aol.com

Truck & Bus Operator Health and Wellness Subcommittee (ANB70-3)

Purposes of Subcommittee:

- Raise visibility of importance of Health and Wellness issues within TRB research community
- Promulgate commercial driver Health and Wellness research findings; highlight research recommendations
- Foster more research on Health and Wellness related to Truck and Bus Safety concerns

From whence we came



Report Available Fall 2007

Truck Driver Occupational Safety and Health

2003 Conference Report and Selective Literature Review



DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

NIOSH

Truck Driver Occupational Safety and Health 2003 Conference Report and Selective Literature Review*

Gregory M. Saltzman[†] and Michael H. Belzer[‡]

Revised February 8, 2007

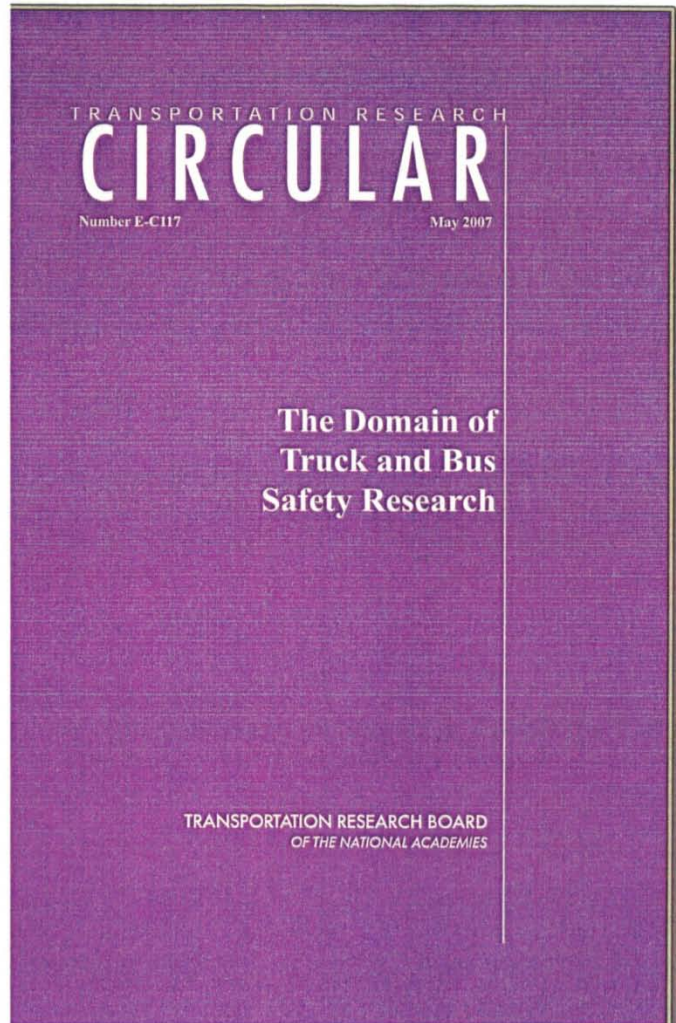
DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

*The Wayne State University Truck Driver Occupational Safety and Health Conference was held April 24-25, 2003, at the Detroit Metro Airport Doubletree Hotel, Detroit, MI.

[†]E. Maynard Aris Professor and Chair, Department of Economics and Management, Albion College, 611 East Porter Street, Albion, MI 49224. Adjunct Research Scientist, Institute of Labor and Industrial Relations, University of Michigan. gsaltzman@albion.edu

[‡]Associate Professor of Industrial Relations, Wayne State University, Department of Interdisciplinary Studies, College of Liberal Arts and Sciences, Detroit, MI 48202. Adjunct Associate Research Scientist, Institute of Labor and Industrial Relations, University of Michigan. Michael.H.Belzer@wayne.edu

From whence we came



4

Health and Wellness of Commercial Drivers

GERALD P. KRUEGER
MICHAEL H. BELZER
ALBERT ALVAREZ
RONALD R. KNIPLING
E. LEE HUSTING
REBECCA M. BREWSTER
JOHN H. SIEBERT

This chapter reviews important health and wellness topics pertaining to commercial truck, bus and motorcoach drivers, with discussion focused on those factors that directly affect driving safety. Some driver health issues are addressed in less detail here because they are not so obviously connected to driving safety per se. Numerous health and wellness topics to select from include those as far reaching as

- Epidemiological surveillance of diseases, illnesses, job injuries, and resultant OSHA statistics portraying incidences of commercial vehicle driver injuries and death;
- Proper diet, nutrition, limiting alcohol and tobacco use, maintaining proper weight and physical fitness levels, psychological and physical stress, workload, participating in stress alleviation programs;
- Health and safety consequences of shiftwork, irregular and extended work schedules, missed or broken sleep, circadian rhythm disruption, loss of driver alertness, and driver fatigue;
- Sleep maladies, sleep disorders, chronic partial sleep deprivation, resultant drowsiness, and driver fatigue;
- Whether declining driver fitness and health lead to driving safety risks, e.g., a lack of alertness;
- Whether leading a health-conscious lifestyle makes drivers behaviorally more apt to be safe on the roads; and if so, identifying how to foster healthy lifestyles through general wellness education programs;
- Whether wellness programs advocating healthy lifestyles actually make sizeable differences in driving safety now, while the CMV driver is still employed—or only improve a driver's quality of life and possibly extend life expectancy; and
- Medical checkups and health criteria used to qualify CDL holders to drive CMVs—determining certification and training for medical personnel who certify drivers on CDL physical exams.

It is the intent of this chapter to dwell on health and wellness topics that have a clear link to driving safety. For example, although chronic tobacco smoking may affect one's health, it is not so readily apparent that smoking by itself or its accompanying health consequences directly impact driver safety.

At a conference on truck driver occupational health and safety (Saltzman and Belzer, 2003) it was pointed out that in 2001, truck drivers accounted for more than one-eighth of the fatal occupational injuries (799 of 5,900) in the United States, while CMV drivers only accounted for a relatively small percentage of the total of American workers at risk

R. Knipling (Ed.) May 2007; TRB Circular as an electronic report, available on TRB web site: www.trb.org

From whence we came

Commercial Truck and Bus Safety

Synthesis 15

Health and Wellness Programs for Commercial Drivers

A Synthesis of Safety Practice

Sponsored by the
Federal Motor Carrier
Safety Administration

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

COMMERCIAL TRUCK AND BUS SAFETY SYNTHESIS PROGRAM

CTBSSP SYNTHESIS 15

Health and Wellness Programs for Commercial Drivers

Gerald P. Krueger
KRUEGER ERGONOMICS CONSULTANTS
Alexandria, VA

Rebecca M. Brewster

AND

Virginia R. Dick
AMERICAN TRANSPORTATION RESEARCH INSTITUTE
Alexandria, VA

Robert E. Inderbitzen
REI SAFETY SERVICES, LLC
Vonore, TN

Loren Staplin
TRANSANALYTICS
Kulpsville, PA

Subject Areas
Operations and Safety • Freight Transportation

Research sponsored by the Federal Motor Carrier Safety Administration

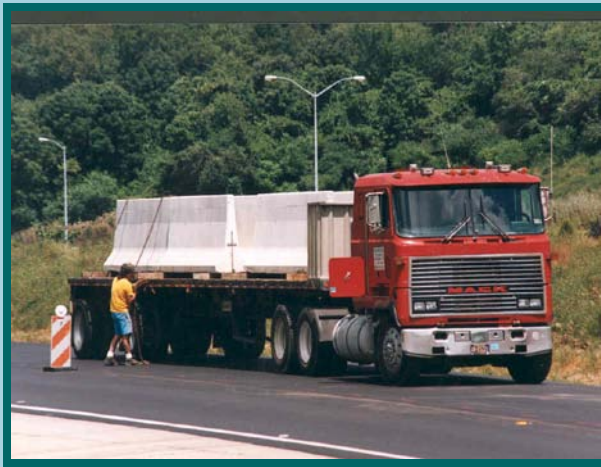
TRANSPORTATION RESEARCH BOARD

WASHINGTON, D.C.
2007
www.TRB.org

May 2007 Report available on TRB Web site: www.trb.org

Truck & Bus Operator Health & Wellness 2009-2010 Activities

- Health & Wellness presentations/activities
 - Boston Int'l Fatigue Conference (apnea, drugs) Mar. '09
 - Fatigue, Wellness, Sleep Apnea Webinar, Sept. '09
- Nat'l Occupational Research Agenda (NORA)
 - TWU Sector Council met at NIOSH March & August 2009
- Survey-Truck Driver Safety & Health-NIOSH, Karl Sieber et al.
- Plans / actions for year 2010:
 - Several presentations & committee mtg at Jan. TRB
 - Submit H&W Research Need Statement for TRB
 - November 2010 Int'l Conference on Commercial Driver Health & Wellness (TRB-FMCSA w / NIOSH partnership), Albert Alvarez



NORA

National Occupational Research Agenda (*NORA*)

Transportation, Warehousing, and Utilities (TWU) Occupational Sector

- Focus here is on commercial driver issues
- TWU Sector Council met in March & August 2009

NORA TWU Strategic Goals

4 Strategic Goals for TWU Sector developed through a step-wise process, input received from industry meetings, public review, and Council deliberation.

Strategic Goal #1 addresses all work-related injuries by individual industry sub-sectors;

Strategic Goals #2 and #3 address specific types of injury and workplace wellness programs, respectively;

Strategic Goal #4 looks at hazards and exposures.

All four Strategic Goals have corresponding Intermediate Goals and Activity / Output Goals.

NORA TWU Strategic Goals

Goal 3. Improve health & reduce premature mortality through workplace programs and practices that

- (1) enable workers to engage in healthy behaviors,**
- (2) reduce work-related physiological and psychological stressors,**
- (3) improve healthcare utilization.**

- Establish prevalence of health risk factors and work-related illnesses among commercial drivers
- Reduce obesity among commercial drivers
- Reduce cardiovascular disease
- Identify & reduce workplace psychological stressors
- Increase appropriate utilization of healthcare

Survey of Long-Haul U.S. Truck Driver Safety and Health

NIOSH Investigators:

Karl Sieber, Ph.D.

Jan Birdsey, M.P.H.

Guang-X. Chen, M.D., M.S

Ted Hitchcock, Ph.D.

Jennifer Lincoln, M.S.

Cindy Robinson, Ph.D.

**TRB ANB70 Truck and Bus Safety Meeting
Status Report - January 2010**



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2009 Activities

A. Questionnaire development:

- Screening questionnaire-determine survey eligibility
- Main survey questionnaire
- Include a 48-hour activity log (not driver logs)

B. Protocol development

- Define survey conduct & interview procedures
- Plan 2500 personal interviews at 50 truck stops

C. Pretest 1 at a truck stop

- Met w/ managers to determine logistics and strategies to administer surveys at locations

D. Pretest 2 at a truck stop

- Administered test questionnaire to 9 truck drivers



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Survey Timelines (Tentative)

- **October 28, 2009 – 60-day Federal Register Notice published for public comment.**
- **Early 2010 – Information Collection Request (ICR) submission to OMB; OMB approval expected;**
- **2010 – Begin data collection.**
- **2010 / 2011 – Data analysis & Dissemination of results.**

Noise Levels, Whole-body Vibration and Air Quality in Cabs of Heavy-Duty Diesel Vehicles: Parked with Engine-idling & On-road Driving

Joshua S. Fu, Ph.D.
Associate Professor

James Calcagno, Ph.D.
Civil & Environmental Engineering Dept.

Wayne T. Davis, Ph.D.
Dean, College of Engineering

TRB 89th Annual Meeting

***Truck and Bus Operator Health and
Wellness Subcommittee***

January 11, 2010

Summary: Noise

- Overall noise levels were well below OSHA permissible exposure level
- Slightly higher noise levels measured during interstate travel relative to state or rural highway travel
- Noise from tires, engine RPM, and wind impacting the cab at higher road speeds contributed to elevated noise levels during interstate driving
- Noise levels were similar across truck manufacturers; slight differences observed between different manufacturers

Summary: WBV (at driver seat only)

- Seat vibrations generally below the EU exposure action level for an 8-hr driving day
- Exposure limits were exceeded in a few trucks; but these were isolated, probably due to poor condition of roadway pavement
- Found significant WBV differences between truck manufacturers, & between interstate and rural highway driving; higher WBV on rural highways
- The comfort index of driver seat cushions, in the majority, fell within the "a little uncomfortable" region, which is one step removed from the best rating possible (i.e., the "not uncomfortable" region)

Summary: Air Quality (Parked-idling)

- Overall CO, NO_x and PM_{2.5} concentrations were relatively low inside and outside the cab when both engine and HVAC were in off mode
- Highest CO and NO_x concentrations occurred during engine on and HVAC in re-circulation mode
- High PM_{2.5} concentrations during engine on and HVAC in fresh air mode & during engine on and fan off mode
- Long-haul trucks tend to self-pollute the cab during extended periods of parked-idling conditions (proximity to other trucks creates a problem)
- Concentrations of CO & NOX were below OSHA PEL, however PM_{2.5} concentrations exceeded EPA NAAQS

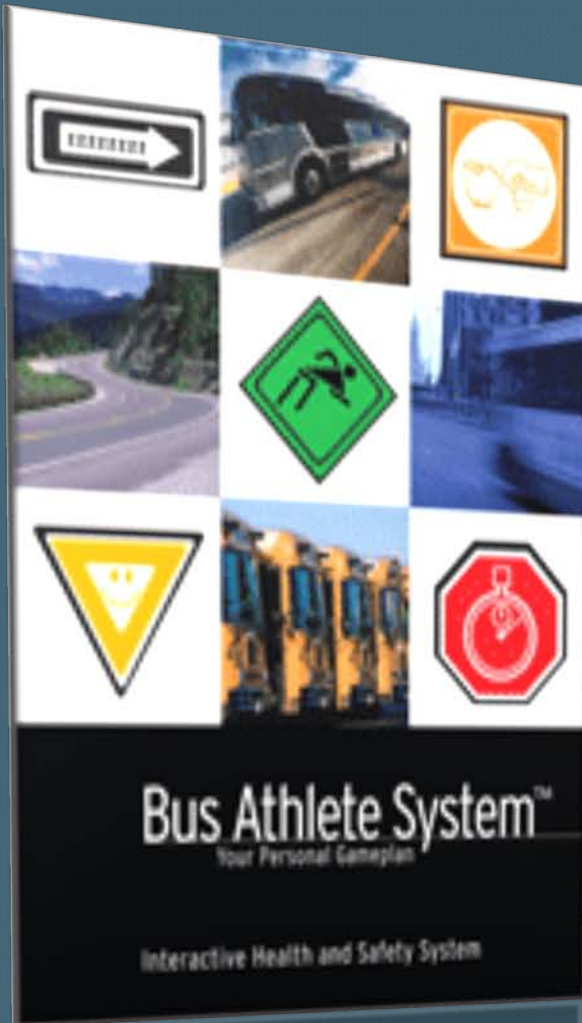
Summary: Air Quality (On the road)

- Overall in-cab concentrations were relatively low for three air pollutants measured
- Average concentrations while driving on interstate were higher than average concentration measured while driving on rural highways. Increasing concentration became more pronounced as vehicles approached metropolitan areas (mainly background)
- Measured concentrations of CO, NO_x and PM_{2.5} were below standard exposure levels

Susan & Ron Shapiro
Occupational Athletics, LLC

Interactive Health and Safety System
for Bus and Truck Drivers

Welcome To
The Bus Athlete
System Training

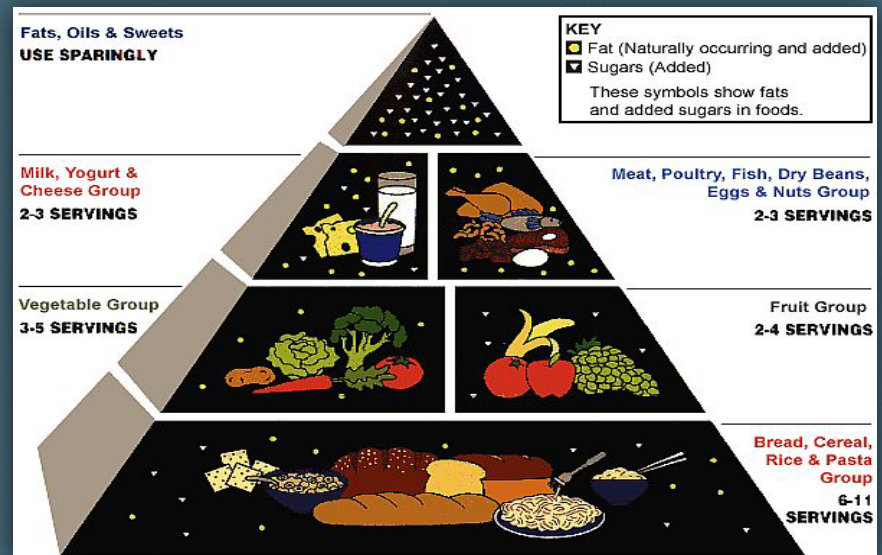


Bus Athlete System

- ❑ Driver's Own Interactive Gamebook
- ❑ 2 Audio CD's
- ❑ Laminated Stretch Card
- ❑ Quarterly Survey Cards



Includes: 12 Lifestyle Factors & Information That Will Improve Drivers' Health



12 Lifestyle Factors in Athlete's Gamebook

- Nutrition
- Physical Exercise
- Mental Fitness
- Stress Reduction
- Attitude & Happiness
- Sleep and Fatigue
- Substance Abuse
- Time Management
- Motivation
- Disease Prevention
- Weight Control
- Relaxation

The Bus Athlete Gamebook

- ❖ YOU DON'T JUST READ IT! YOU PLAY IT!
- ❖ IT INCLUDES ALL 12 LIFESTYLE FACTORS.
- ❖ YOU CHOOSE WHICH FACTORS INTEREST YOU MOST.
- ❖ YOU JUST COMPLETE ONE PAGE A DAY.
- ❖ YOU KEEP TRACK OF YOUR OWN PROGRESS.



Truck and Bus Operator Health and Wellness Subcommittee

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**Nat'l Conference: Sleep Apnea & Commercial Drivers' Health & Safety
May 12th 2010 BWI Airport, American Sleep Apnea Assoc. (ASAA)**

**Int'l Conference on Commercial Driver Health & Wellness,
Nov. 8th-10th, 2010 Baltimore, MD, TRB & FMCSA**

Come join us, there are plenty of H&W issues to go around

H&W Subcommittee POC: JerryKrueg@aol.com