CVSA Instructor In-Service

CVSA/FMCSA Data Quality and Systems Training

March 4-6, 2025 St. Louis, Missouri

NAFMP
North American Fatigue Management Program

Fatigue Management Resources

Get the slides at the top of the page of nafmp.org/webinars

Fatigue Management Overview

1. Problem
2. Solution
3. Program
4. Content
5. Resources

Poll

Alertness and fatigue are like an on/off switch, you are either awake or asleep

- True
- False

Vigilance Spectrum

- **Delta brain waves:** Deep sleep. 1 to 4 Hertz
- **Theta brain waves:** Sleeping or daydreaming when awake. 4 to 8 Hertz
- **Alpha brain waves:** Awake and calm. 8 to 12 Hertz
- **Beta brain waves:** Awake, alert, busy, and focused. 12 to 38 Hertz
  - **Low beta waves:** Thinking. 12 to 15 Hertz
  - **Beta waves:** Performing or focusing. 15 to 22 Hertz
  - **High beta waves:** Excited or anxious. 22 to 38 Hertz
- **Gamma brain waves:** Highly alert and conscious. 30 to 80 Hertz

Poll

The only cause of fatigue is insufficient sleep

- True
- False

Alertness Has Supply & Demand

- Supply Factors
  - Internal individual susceptibility: circadian rhythm, amount of sleep, time of day, time awake, stimulants, other drugs, health, genes, mood
- Demand Factors
  - Task related: Time on task, task complexity, task monotony
  - Environmental: Road conditions, weather, stress (heat, noise, vibration), vehicle design, social interaction, other stimulation

Poll

In truck/bus crash statistics, driver fatigue is…

- The number 1 cause
- Not a significant cause
- Underrepresented

NTSB Report

- Factors That Affect Fatigue In CMV Crashes
  - The National Transportation Safety Board believes that the incidence of driver fatigue is underrepresented in FARS in general and in FARS specifically with regard to CMV drivers.
  - Research has suggested that CMV driver fatigue is a contributing factor in **30 to 40 percent** of all CMV crashes.

Crash Causation: 87% Driver Related

- **Non-Performance:** Driver fell asleep, was disabled by heart attack or seizure or physically impaired for another reason
- **Recognition:** The driver was inattentive, distracted by something inside or outside the vehicle or failed to observe the situation adequately for some other reason
- **Decision:** Driver was driving too fast for conditions, misjudged the speed of other vehicles or followed other vehicles too closely
- **Performance:** Driver panicked, overcompensated or exercised poor directional control

Crash Causation Associated Factors

- 14% Inadequate Surveillance
- 13% Fatigue
- 10% Felt Under Work Pressure From Carrier
- 9% Inattention
- 8% External Distraction
- **54% Total: Crashes where diminished vigilance was involved**

FMCSA Large Truck Crash Causation Study

CMV Driving Worsens Fatigue

- Tight schedule to get enough sleep
- Extended work hours + commuting
- Changing work schedules
- Work/sleep periods conflict with circadian rhythm
- Limited time for rest & naps
- Unfamiliar & uncomfortable sleep locations
- Sleep disruptions
- Difficulty finding nutritious food on the road
- Limited opportunities for exercise
- Personal, work and environmental stressors

Poll

- Why should a motor carrier manage fatigue?

Benefits

- Lower Fatigue Related Crashes
- Lower Legal Liability Exposure
- Cost Reduction
  - Driver retention
  - Fuel efficiency
  - Medical costs
  - Detention
  - Routing/parking
  - Maintenance
- Labor force
  - Safer
  - More productive
  - Healthier & happier

Return-On-Investment

- Report on Schneider National Inc. OSA Implementation Program showed a significant return on investment
  - Significant savings on medical costs for diagnosed and treated drivers
    - Drivers diagnosed and treated with CPAP, **average savings of $550 per driver/month**
  - 73% reduction in preventable crashes among drivers treated for OSA
  - Retention rate of treated OSA drivers was 2.3 times greater than for all company drivers

NAFMP ROI Calculator

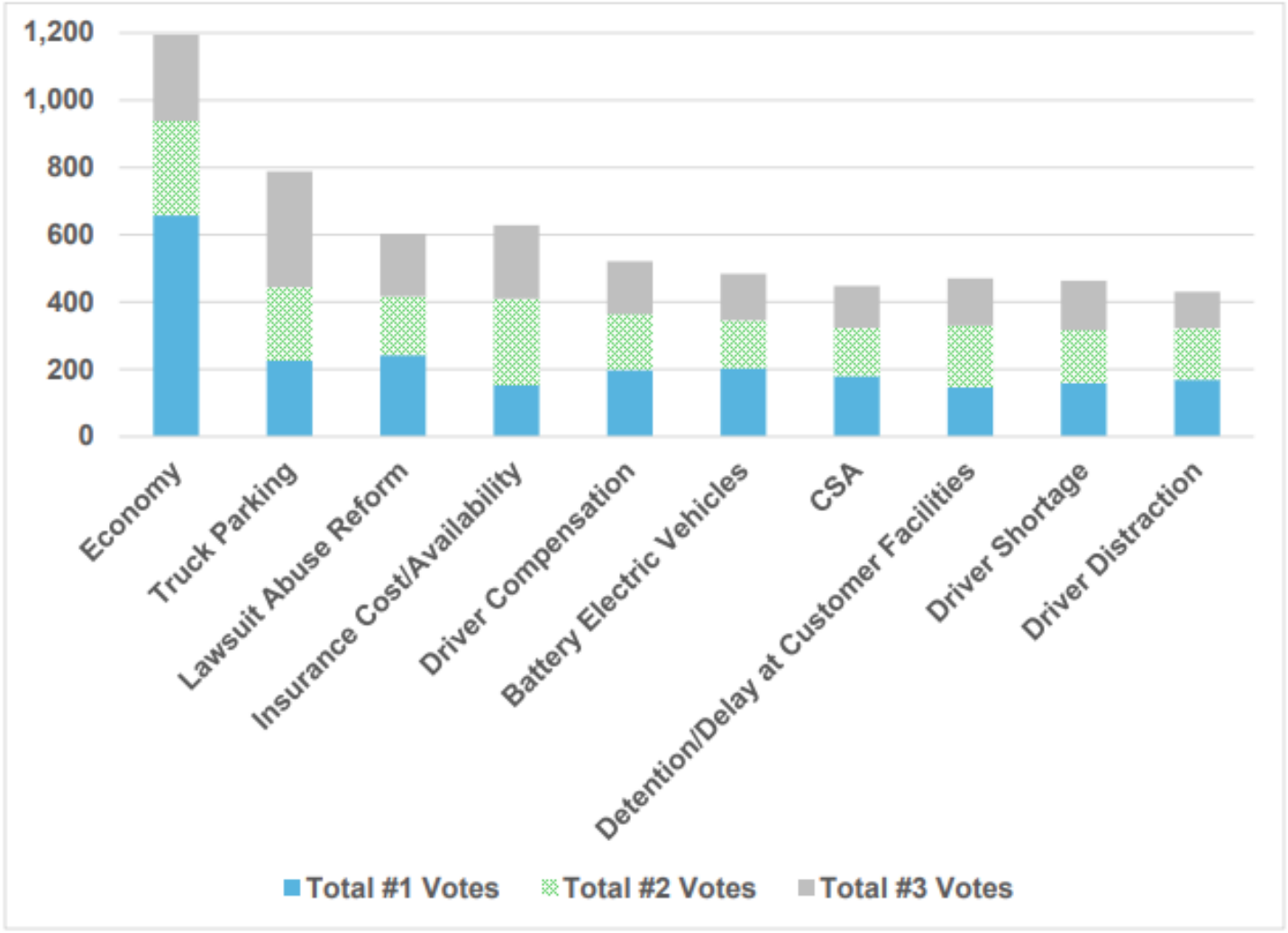
Poll

Is driver fatigue one of the top ten industry issues?

- Yes
- No

ATRI Top Industry Issues

Figure 1: Distribution of Industry Issue Prioritization Scores*



*The bars reflect total points from first, second and third place rankings. Issues that generate more second and third place rankings may appear to have a higher ranking than preceding issues.

CVSA's Guardian Magazine

https://www.cvsa.org/guardian-issues/

PART ONE

Nailing the Top Ten Industry Issues Through Fatigue Management

By **Rodolfo Giacoman**, *Fatigue Specialist, Commercial Vehicle Safety Alliance*

This is part one of two. Part two will be published in Guardian Q4 2024.

In compiling the 2023 Top Industry Issues, ATRI worked with CVSA to survey commercial vehicle enforcement professionals. They identified three top issues highly related to driver fatigue:

1. Driver Distraction

2. Hours of Service

3. Driver Training Standards

You may be surprised to learn that driver fatigue has not been explicitly identified as one of the top 10 industry issues over the last decade, per the annual American Transportation Research Institute (ATRI) "Critical Issues in the Trucking Industry" report, also known as the "Top Industry Issues." (View the 2023 edition, which includes a table ranking the top issues from 2014-2023 online: www.truckingresearch.org/atri-research/top-industry-issues). One may argue that when hours-of-service (HOS) regulations, the electronic logging device (ELD) mandate, or driver health and wellness concerns make the ATRI Top Industry Issues list, they are stand-ins for driver fatigue. However, the last time HOS and ELD made ATRI's annual list was in 2019. Driver health and wellness were last identified in 2018. Does that mean driver fatigue is not a top industry issue, thus fatigue management should pack its bags?

Absolutely not. The industry would be better served by recognizing that driver alertness is what holds together the various components of safe, efficient and profitable commercial transport. So where is the disconnect? You may have heard of "Maslow's hammer," a term based on famous American psychologist Abraham Maslow's observation in 1966: "If the only tool you have is a hammer, it is tempting to treat everything as if it were a nail." In 2003, historian Robert Kagan wrote a corollary to Maslow's hammer: "When you don't have a hammer, you don't want anything to look like a nail." Kagan's corollary may illustrate why driver fatigue is not explicitly identified as a top industry issue: the industry has not standardized a fatigue management program (FMP) – the hammer – so it does not identify driver fatigue – the nail – as a significant issue.

Check the NAFMP FAQs and download the NAFMP Implementation Manual at www.nafmp.org/faqs/

According to the North American Fatigue Management Program (NAFMP) at www.nafmp.org, an FMP requires having both of the following in place:

- **A safety culture** that places alertness as a non-negotiable value through education, training and fostering partnerships with all those involved in the supply chain.
- **A fatigue risk management system (FRMS)** composed of several predictive/proactive/reactive risk identification/control processes that, at minimum, include sound scheduling practices, a sleep disorder management program and fatigue detection technologies.

While you won't find driver fatigue among the 2023 Top Industry Issues, we have illustrated how it affects every aspect of the industry, along with how a solid FMP can directly improve each of the 10 issues. Check out the first five below and stay tuned to see the remaining five in the Q4 2024 Guardian.

The NAFMP Module courses referred to below are available for free at lms.nafmp.org.

1. The Economy

Improve Safety and Reduce Crash Costs
Fatigue is a significant factor in many crashes. By implementing an FMP, motor carriers can reduce the number of crashes, leading to lower costs associated with vehicle repairs, insurance premiums, legal fees, medical costs and driver retention. Reduced crashes also means fewer injuries and fatalities, which lowers the company's healthcare costs and supports the overall well-being of drivers.

Increase Productivity and Efficiency
Well-rested drivers are more alert and productive, leading to more efficient operations, resulting in faster delivery times and better-quality service. Fewer crashes and health issues also mean less downtime for vehicles and drivers, keeping more trucks on the road and generating revenue.

Lower Operational Costs
Fatigue leads to poor driving practices, which increase vehicle wear and tear and fuel consumption. Proper fatigue management may help maintain vehicles in better condition and promote more efficient driving behaviors, reducing maintenance, repair and fuel costs.

Encourage Greater Compliance and Penalty Avoidance
Adhering to HOS regulations helps carriers avoid fines and penalties associated with non-compliance. This may also prevent lower safety ratings and a potential loss of customers. A strong safety record enhances the reputation of the motor carrier, potentially leading to more business opportunities and partnerships.

Enhance Employee Retention and Satisfaction
Dispatchers using sound scheduling practices suggested by the NAFMP Module 9 are less likely to overwork drivers, who, in turn, are more likely to be satisfied with their jobs. This leads to higher retention rates, reducing costs and downtime related to hiring and training new drivers. Using FMP best practices to prioritize driver health can also decrease

CVSA's Guardian Magazine

https://www.cvsa.org/guardian-issues/

CVSA COMMITTEE AND PROGRAM NEWS

PART TWO

Nailing the Top Ten Industry Issues Through Fatigue Management

By **Rodolfo Giacoman**, *Fatigue Specialist, Commercial Vehicle Safety Alliance*

This is part two of two. Part one was published in Guardian Q3 2024.

In compiling the 2023 Top Industry Issues, ATRI worked with CVSA to survey commercial vehicle enforcement professionals. They identified three top issues highly related to driver fatigue:

1. Driver Distraction
2. Hours of Service
3. Driver Training Standards

The American Transportation Research Institute (ATRI) publishes a yearly report titled Critical Issues in the Trucking Industry, also referred to as the Top Industry Issues, available from ATRI's website at https://truckingresearch.org/atri-research/top-industry-issues. As we navigated the first five issues in the Q3 2024 issue of "Guardian," it became clear that driver fatigue is a pervasive yet often overlooked force within the trucking industry.

Do you recall Maslow's hammer analogy about the tendency to treat everything as a nail when all you have is a hammer? Robert Kagan offered a corollary: "When you don't have a hammer, you don't want anything to look like a nail." This captures why driver fatigue, despite its widespread impact, does not explicitly appear on the ATRI Top Ten Industry Issues list. The industry, lacking a standardized "hammer" in the form of a fatigue management program (FMP), struggles to fully recognize and address the "nail" of driver fatigue.

Yet, as described in Part One, fatigue has an abundant impact. It is behind issues like driver retention, where burnout and exhaustion contribute to high turnover rates. Fatigue influences crash rates, fuel efficiency, insurance costs and even the industry's ability to attract new talent. It is the hidden "nail" impacting the very foundation of the trucking industry.

In Part Two, we continue reviewing the remaining five top industry issues on ATRI's list, further illuminating how each is influenced by driver fatigue. This connection between driver fatigue and industry issues demonstrates why a fatigue management program, emphasizing risk management and safety culture, can provide the much-needed "hammer" to address these issues head-on. By acknowledging the "nail" and equipping folks with the right tools, the industry can pave the way for a safer, more efficient and more profitable future.

The NAFMP Module courses referred to below are available for free at lms.nafmp.org.

The first five issues were the economy, truck parking, fuel prices, driver shortage and driver compensation. Now, let's discuss the remaining five.

6. Lawsuit Abuse Reform

The relationship between lawsuit abuse reform (tort reform) and fatigue management for motor carriers involves several interconnected factors. FMPs can influence the frequency and severity of lawsuits, relating to the industry's broader need for tort reform.

- **Reduction in Crashes and Liability**
  FMPs reduce the incidence of driver fatigue, a significant factor in truck-related crashes. Fewer crashes result in fewer lawsuit opportunities, decreasing the effects of lawsuit abuse and reducing the potential liability for motor carriers. This can lead to fewer high-cost settlements and verdicts, often cited as reasons for seeking tort reform.
- **Insurance Costs and Availability**
  Reduced crash rates and liability directly impact insurance costs. A safe track record and fewer claims can lower insurance premiums, addressing one of the core issues tort reform aims to mitigate. Carriers with FMPs may find it easier to obtain insurance coverage as they present a lower risk profile to insurers.
- **Enhanced Safety Performance**
  Consistent implementation of FMPs can enhance a carrier's overall safety performance, providing a solid safety record that protects carriers from excessive litigation and associated costs. Using FMPs as part of their lawsuit defense demonstrates their commitment to safety and potentially reduces the likelihood of large verdicts against them.
- **Public and Legal Perception**
  Carriers that value fatigue management can build a positive public image, impacting jury perceptions in the event of a lawsuit. A reputation for safety and driver welfare can be advantageous in court, influencing legislative and regulatory bodies and supporting arguments for more balanced and fair legal standards, contributing to the tort reform agenda.

NAFMP

North American Fatigue Management Program

nafmp.org

FMP

- Safety Culture
  1) Education
  2) Training
  3) Continuous communications – Including partnerships
- Fatigue Risk Management System
  1) Operations
  2) Identify risks with processes and controls
     - Predictive, proactive, reactive
     - Sound scheduling, sleep disorders program, fatigue detection technologies
  3) Risk assessment
  4) Measures and countermeasures
  5) Evaluation

Safety Culture

- Shared behavior pattern and beliefs related to safety
- Safety is a value
- Safety is a part of company's identity
- Shared responsibility for safety
- Commitment to helping others perform safely
- Top management buy-in
- Empowering staff and generating commitment to FMP
- Build driver trust and instill accountability
- Driver recognition
- Corporate culture change

Module 2: Safety Culture

Education & Training Courses

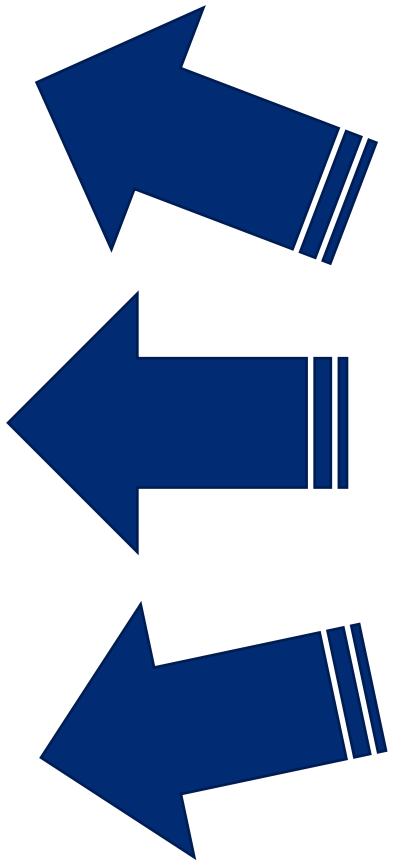
- eLearning Platform & PowerPoint Downloads
  - Motor carrier executives and managers
    - Module 1 (Intro), 2 (Safety Culture), 7 (Sleep Disorders), 10 (Technologies)
  - Motor carrier trainers
    - Module 5 (Train-the-Trainer)
  - Motor carrier dispatchers and driver managers
    - Module 9 (Scheduling)
  - Freight Shippers, Receivers, Brokers
    - Module 6 (Role of shippers & receivers on driver safety)
  - Drivers
    - Module 3 (Driver Ed), 8 (Sleep Disorders) & 9 (Scheduling)
  - Driver Families
    - Module 4 (Family Ed)

Reminders, please

- Consult your medical provider before following any lifestyle recommendations or if you feel any discomfort
- You are responsible for any consequences of following any recommendations provided
- Be aware and try to eliminate the stigma associated sometimes with sleeping, metabolic diseases, substance abuse and mental health
- Do not allow any recommendations cause you to worry or become obsessed with a toxic wellness culture

Wellness Affects All Body Systems

- Messaging
  - Nervous
  - Endocrine
  - Immune
  - Reproductive
- Plumbing
  - Respiratory
  - Cardiovascular
  - Digestive
  - Urinary
- Support
  - Skeletal
  - Muscular
  - Integumentary



1. Sleep
2. Positive Relationships
3. Positive Behaviors
4. Nutrition
5. Exercise

Poll

What will kill you faster?

- No Sleep
- No breathing
- Starvation
- Dehydration

Importance of Sleep: Biology

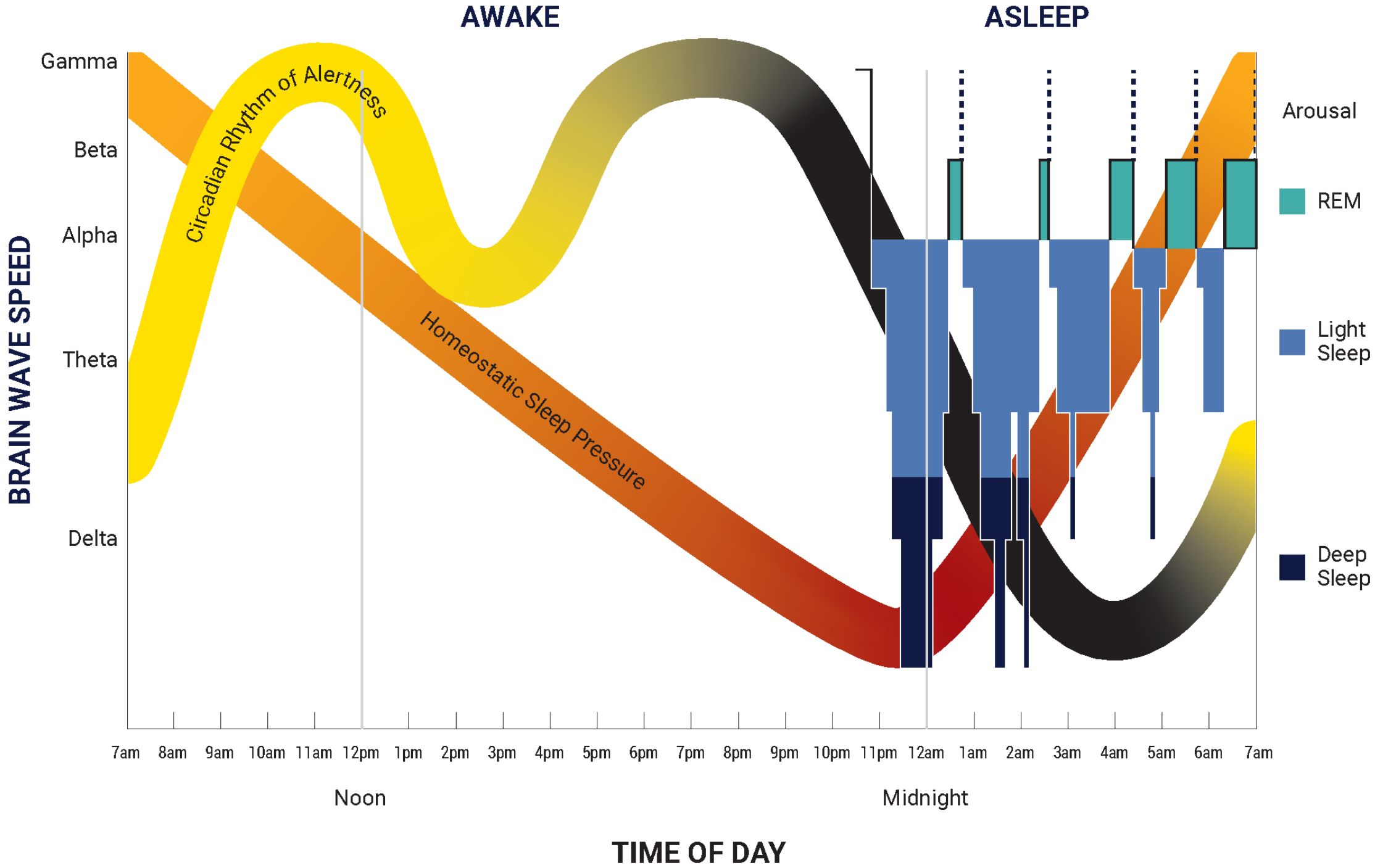
Sleep Functions

- Energy recharge
- Cellular restoration
- Brain function
- Emotional wellbeing
- Metabolism maintenance
- Immunity enhancement
- Heart health

- Webinar: Sleep Hygiene

Sleep Deprivation Effects

- Metabolic Syndrome
- Reduced immune system functioning
- Gastrointestinal problems
- Disrupts relationships
- Worsens psychiatric conditions
- Decreased quality of life
- Increased sick days


AWAKE
ASLEEP
Gamma
Beta
Alpha
Theta
Delta
BRAIN WAVE SPEED
Circadian Rhythm of Alertness
Homeostatic Sleep Pressure
Arousal
REM
Light Sleep
Deep Sleep
7am 8am 9am 10am 11am 12pm 1pm 2pm 3pm 4pm 5pm 6pm 7pm 8pm 9pm 10pm 11pm 12am 1am 2am 3am 4am 5am 6am 7am
Noon
Midnight
TIME OF DAY

Poll

What is the single most important predictor of wellbeing and longevity?

1. Low cholesterol
2. Not smoking
3. Warm relationships
4. Exercising
5. Meditation
6. Normal blood pressure

Relationships Affect Wellness

- Stress with isolation from family & friends
- Finding and sustaining network of family, friends & coworkers
- Keep in touch, communicate
- Value and foster each relationship
- Do fun things together
- Be positive
- Show support

Webinar: Nurturing Positive Relationships

Positive Behaviors

- Positive outlook and behaviors
- Balance between work and personal life
- Pursue personal interests
- Support network
- Try to improve job environment
- Get serious about relaxing
  - Relaxation breathing
  - Short walks
  - Meditation
  - Reading
  - Find method that works best for you

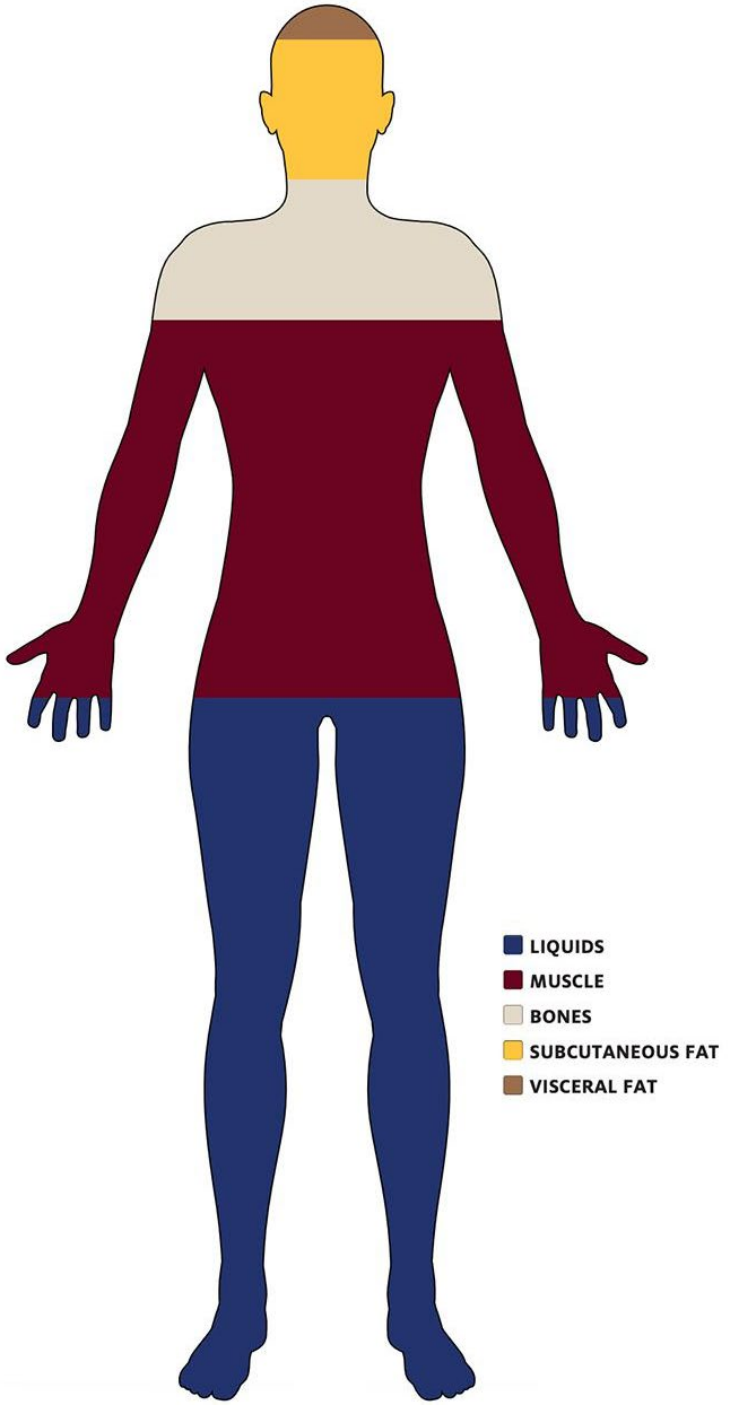
Webinar: Mindfulness

Poll

The purpose of diets is to lose weight

- True
- False

Body weight composition



Weight Loss Is the Wrong Goal

Where Does Body Weight Come From

- Liquids, Muscles, Bones, Subcutaneous Fat, Visceral Fat

- Weight loss is regained in 1-5 years
- May lack essential nutrients and may be harmful
- May take pleasure out of eating
- May lead to eating disorders
- Snake oil is medical quackery
- Goal is to stay healthy, enjoy food and share it with others

Obesity vs Metabolic Syndrome

- U.S. Adults (240 million)
  - 70% Non-Obese (168 million)
    - 60% Healthy (101 million)
    - 40% Metabolic Syndrome (TOFI) (67 million)
  - 30% Obese (72 million)
    - 20% Healthy (14 million)
    - 80% Metabolic Syndrome (58 million)
  - Total healthy: 115 million
  - Total Metabolic Syndrome: 125 million

- Metabolic Syndrome
  - Non-alcoholic fatty liver disease
  - Diabetes
  - Cardiovascular disease
  - Hypertension
  - Lipid abnormalities
  - Polycystic ovarian cancer
  - Dementia

Nutrition

- Essential Macronutrients
  - Carbs with Fiber (veggies, fruits, whole grains)
  - Fats except artificial trans fats (fatty fish, dairy, nuts, seeds, avocado)
  - Proteins (fish, seafood, chicken, beef, pork, dairy)
  - Water

- Essential Micronutrients
  - Vitamins
  - Minerals

Webinar: Nutrition

Malnutrition

- Ultra processed food
  - Lack of fiber
  - Excess sugar, salt, oils, fats and many additives
  - Engineered to taste good
  - Cheap & convenient
  - Aggressively marketed
  - Addictive
- Liquid candy
  - Soda
  - Juice
  - Any sweetened/alcoholic drinks

- Toxic to the liver and brain
  - Excess sugar
  - Excess protein
  - Drugs

Poll

Exercising right before going to sleep is not recommended…

- Always true
- Depends on exercise type
- Always false

Exercise

1. Cardiopulmonary
2. Strength bearing
3. Stretching & balancing

- Enhances alertness
- Promotes better sleep
- Lowers stress
- 10-minute walks twice or more per day
- Work out more vigorously on weekends
- Take exercise equipment with you on trips
- Keep a record of your exercise
- Set daily and weekly goals
- Find out what you like and do it

Webinar: Exercise

Poll

Drivers can tell when they are fatigued…

1. Always, based on their perception
2. When trained to recognize it
3. Rarely; that's why it's a problem

Objective Signs of Fatigue

- Eyelid drop or loss of focus
- Yawning
- Wandering, scattered or disjointed thoughts, dreamlike visions
- Head movements, gentle swaying, jerking
- Reduced field-of-view (AKA: tunnel vision, highway hypnosis, white line fever)
- Fidgeting, shifting positions, adjusting windows & HVAC
- Progressive weaving, crossing rumble strip, drift and jerk steering
- Delayed or incorrect responses
- Microsleeps

Fatigue Management Strategies

- General
- At home
- On the road
- Night driving
- Dealing with shift/time zones
- Team driving

Module 3: Driver Education

Shipper and Receiver Best Practices

1. Realistic Trip Schedules
2. Reduce Loading/Unloading Delays
3. “Driver-Friendly” Queuing Practices
4. Off-Hour Parking Access

Module 6: Shippers & Receivers

TCA/NITL Code of Ethics

- Established by the National Industrial Transportation League (NITL) and Truckload Carriers Association (TCA)
- Voluntary Guide to Good Business Relations
  - 25 shipper/receiver and 22 carrier/driver guidelines
- Often incorporated by reference into carrier-shipper contracts
- Has not solved all problems but has increased mutual understanding and cooperation

Selected Shippers & Receivers Guidelines

- Maintain reasonable hours for loading and unloading according to volume of shipments with appropriate consideration for offering evening and weekend hours. Provide carriers/drivers 24-hour access to facility contacts to facilitate resolution of loading/unloading issues
- Promptly load/unload trucks that arrive within the scheduled time. Accommodate or reschedule pickups deliveries when unforeseeable events intervene. Make reasonable effort to be flexible in loading/unloading trucks that arrive early or late or without an appointment
- Establish reasonable transit times based on compliance with government regulations
- If available, provide a safe harbor (parking) for drivers who cannot legally drive to another location or for early arrivals
- Treat drivers with courtesy and respect. Provide drivers access to safe, clean, and well-lit restrooms, water and other comfort facilities where available

Selected Carrier & Drivers Guidelines

- Quote transit times that can clearly be achieved within driver hours-of-service regulations and prevailing speed limits
- Communicate in a timely manner to shipping and receiving personnel all significant delays or problems with performing to pickup or delivery specifications prior to failure
- Strive to meet all service commitments to deliver shipments on a timely basis (when loaded on time and allowing for a reasonable transit time)
- Provide shipper/receiver with timely advance notice of possible service failures based on contract and/or tender expectations
- Be forthcoming and provide honest and proactive information to shippers regarding safety status changes and potential companywide status

Fatigue Risk Management System

1. **Applicability**: Operations at risk
2. **Identification & Data Collection**: Risk determination
   - **Predictive**: Previous experience, evidence-based scheduling, math models
   - **Proactive**: Self-reported, questionnaires, performance reviews, scientific literature review, planned vs actual time worked
   - **Reactive**: Determine if fatigue was a factor in crash, near crash or violation
3. **Assessment**: Classify hazards

   Probability + S**everity = Tolerability**
4. **Development**: Measures/countermeasures to reduce/eliminate risks
5. **Evaluation**: Continuously monitor effectiveness of FRMS

Implementation Manual: Chapter 4, Pages 57-74

3.c Fatigue Risk Assessment Matrix

Risk Probability		Risk Severity				
		Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent	5	5A	5B	5C	5D	5E
Occasional	4	4A	4B	4C	4D	4E
Remote	3	3A	3B	3C	3D	3E
Improbable	2	2A	2B	2C	2D	2E
Extremely Improbable	1	1A	1B	1C	1D	1E

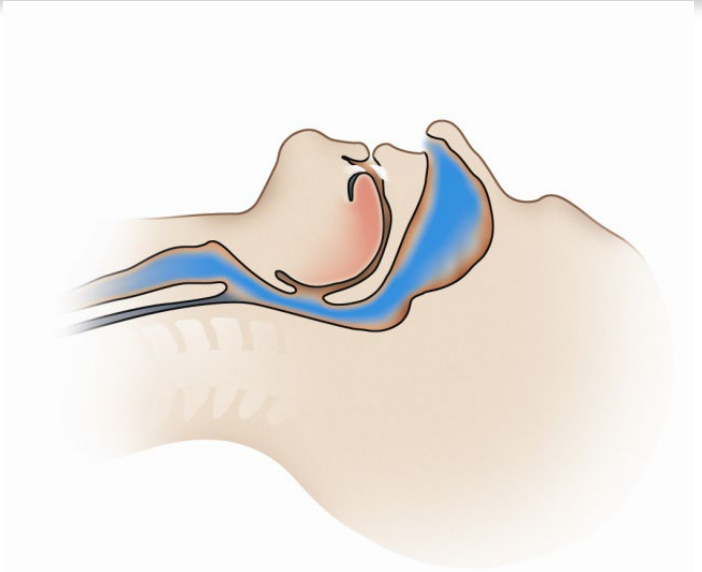
Adapted from the International Civil Aviation Organization

Fatigue Susceptibility

- Sleep Deprivation
  - Sleep-related behaviors
  - Sleep hygiene
- Individual Differences
  - Genetic variations
  - Health & fitness
- Medical conditions
  - Medications
  - Sleep disorders
    - Insomnia, narcolepsy, restless leg syndrome, sleepwalking, abnormal circadian rhythms, obstructive sleep apnea (OSA)

Obstructive Sleep Apnea

- **Apnea** = stoppage of breathing lasting 10+ seconds
- OSA = breathing stops repeatedly during sleep due to closures of the upper airway
- Apnea rate per hour:
  - <5 = normal
  - ≥5 = OSA
- OSA severity (mild, moderate, severe) based on rate
- Some people with severe OSA can have 100 per hour



Poll

OSA diagnosed and treated drivers are medically disqualified from operating a CMV

- True
- False

Sleep Disorders Management Program

1. Education
2. Screening
3. Testing
4. Treatment
5. Monitoring

Module 7: Sleep Disorders Management (Motor Carriers)

Module 8: Sleep Disorders Management (Drivers)

Webinar: A Motor Carrier's Guide to Establishing a Sleep Disorders Management Program

Scheduling Practices

- Sound scheduling and routing
- Time of day, recent sleep, continuous hours awake, cumulative sleep debt
- Shared responsibility mitigating driver fatigue in work schedules
- Regular schedules
- Forward vs backward scheduling
- Consider travel time to employment location
- Consider rests and naps during work shift
- Maximum of 16 hrs. per day or less
- Maximize benefits of scheduling tools
- Develop customized strategies for managing fatigue

Module 9: Driver Scheduling and Tools

Fatigue Management Technologies Types

1. Scheduling & Trip Planning
2. Fitness for Duty Testing
3. Performance Monitoring
4. Driver Monitoring

Module 10: Fatigue Technologies

Webinars: The Alertness Toolkit and NAFMP Solutions Series

Technology Catalog Sources

- 2020 Review of Commercially Available Devices to Detect Fatigue and Distraction in Drivers
  - By Institute for Road Safety Research in the Hague, Netherlands
- 2019 Commercial Motor Vehicle Operator Fatigue Detection Technology Catalog and Review
  - By National Surface Transportation Safety Center for Excellence
- 2019 Research Report - Fatigue/distraction detection technology use in the Australian road freight transport sector
  - By Australia's National Heavy Vehicle Regulator (NHVR)

Poll

A safety culture is nice to have but not necessary for an effective fatigue risk management system

- True
- False

Effectiveness of FRMS

"While FRMS are likely to be effective, in organizations where safety cultures are insufficiently mature and resources are less available, these systems may be challenging to implement successfully"

How Effective are Fatigue Risk Management Systems (FRMS)? A Review

NTSB Crash Investigation

NTSB Crash Investigation Page

Crash Investigation Results: Driver

- Expired CDL/Medical?
- Prior violations, convictions, crashes?
- Tested positive for alcohol or drugs?
- Speeding?
- New driver / New truck?
- Pre-existing medical conditions?
- Prescription drug use?
- Calling, texting, not facing the road?
- Not holding steering wheel?
- Kept a regular schedule?
- How long were prior workdays?
- How long prior sleep opportunity?
- What was the time of day?
- How many signs of upcoming stopped traffic were before crash?
- Responded to brake lights?
- Pressed the brakes?
- Died?

Milk Tanker Crash Cause Determination

- NTSB determined that the probable cause of 2021 multivehicle crash in Arizona was the truck driver's failure to respond to the fully conspicuous traffic queue, likely **as the result of fatigue**

- Contributing to the crash was the carrier's
  - **Poor oversight of its drivers**
  - **Lack of fatigue management program**
  - **Failure to enforce its own policies, such as those regarding on-duty hours**

- All a consequence of the carrier's inadequate **safety culture**

Read NTSB press release

"A program to manage driver fatigue in agricultural transportation and collision avoidance technology would have prevented a fatal 2021 multivehicle collision in Phoenix where a tractor-trailer carrying milk crashed into stopped traffic"

NAFMP Resources at nafmp.org

- Tools
- Courses
- Webinars
- Information Sessions
- Articles

Tools

- FMP Template
- Implementation Manual
- ROI Calculator

Courses

- ✓ Live Courses
  - Virtual FMP Roadmap Course on May 21
  - Virtual NAFMP Train the Trainer Course on June 24
- ✓ eLearning Platform
- ✓ PowerPoint Downloads

Webinars

- Recordings
  - nafmp.org/webinars/

- Upcoming

  Conversation with 2018 IDEA Winner Herschel Evans – NAFMP Practitioner Series on Wednesday, March 19, 1-2 p.m. EDT

  Join 2018 International Driver Excellence Award (IDEA) winner and America's Road Team Captain Herschel Evans and CVSA Fatigue Management Specialist Rodolfo Giacoman for a conversation about Evans' commercial motor vehicle driving philosophy and fatigue management strategies that have contributed to his success.

Next Step

Please pass the word to industry partners in your jurisdiction about…

- ✓Completing the FMP Template
- ✓Having their drivers take Module 3: Driver Education & Training
- ✓Registering for live courses, webinars and watch recordings

All resources available from nafmp.org

Schedule an NAFMP Live Session

Rodolfo Giacoman

Fatigue Management Specialist
Commercial Vehicle Safety Alliance

Rodolfo.Giacoman@CVSA.org
202-998-1830

Thank You

Please keep well, alert and happy!

CVSA®