



Dedication at every turn.

FATIGUED DRIVING

Michigan Safety Conference Lansing, MI – April 17, 2018

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Dedication at every turn.

AGENDA

FATIGUE

- Causes
- Effects
- Solutions
- Regulatory Compliance vs. Safety



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AGENDA

FATIGUE

- Causes

Causes of Fatigue

Is it just lack of sleep?

What is fatigue?

Combination of symptoms:

- Decreased alertness
- Decreased attention to the environment
- Reduced performance
- Reduced motivation
- Irritability
- Impaired judgment
- Feelings of drowsiness
- Physical vs. Mental (Fatigued vs. Sleepy)

Causes of Fatigue

- Inadequate sleep
- Sleep deprivation (chronic vs. acute)
- Stressors: Personal, home life, social, work-related
- Changing work-shifts
- Interrupted Circadian Rhythms
- Underlying medical conditions (viral or bacterial infection)
- Sleep Apnea (Obstructive vs. Neurological) or other sleep disorder
- Medication (*Do Not Operate Heavy Machinery...*)

- Chronic Fatigue Syndrome (doesn't improve with rest)
- Systemic Exertion Intolerance Disease (SEID)
- Myalgic Encephalomyelitis (ME/CFS)
- Immune System / Hormonal System imbalances

Causes of Fatigue

Statistics show that most crashes occur at night (11PM and 7 AM) and during the afternoon (2 PM to 4 PM) . Why? (Circadian Rhythms)

Know the danger signs of fatigue:

- Inability to focus or keep your eyes open
- Having trouble keeping your head up
- Can't stop yawning
- Wondering or confused thoughts
- Can't remember the last few miles you have driven
- Drift out of your lane or hit a rumble strip
- Keep jerking your truck back into the lane
- Speed up or slow down unintentionally
- Miss an exit that you anticipated or were familiar with

Causes of Fatigue

How do you deal with Fatigue?

Common coping strategies:

- Radio up
- Windows down
- Smoking
- Eating
- Caffeine
- Stimulants (Red Bull, Monster, NOX, 5-Hour Energy)
- Movement while driving
- Frequent stops



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AGENDA

FATIGUE

- Effects (Results)

Effects of Fatigue

- 1990 NTSB: Principal cause in 31% of fatal-to-driver large truck crashes
- 1998: 20% of fatal road crashes involve fatigue (Australia)
- 2004: 4% of heavy vehicle crashes involved asleep-at-the-wheel
- 2013: The National Highway Traffic Safety Administration estimates that drowsy driving was responsible for 72,000 crashes, 44,000 injuries, and **800 deaths**

What affects stopping distance?

Type of vehicle

- Vehicle Condition
- Weight
- Load
- Tires
- Brakes
- Speed

Driving Conditions

- Weather
- Road type and surface

The Driver

Your perception time & reaction time

Fatigue

Drugs (OTC, prescription, illegal)

Alcohol

Stress, emotions

Inattention

TRUCK STOPPING DISTANCE TABLE

SPEED		PERCEPTION & REACTION DISTANCE	+	BRAKE LAG DISTANCE	+	EFFECTIVE BRAKING DISTANCE	=	(TOTAL STOPPING DISTANCE)	+	2 SECONDS FOR SAFE ASSURED STOPPING	=	TOTAL ASSURED SAFE NON-COLLISION STOPPING DISTANCE	
Miles Per Hr.	Ft. Per Second												
10	15	23	6	10	30	69		(39)					
15	22	33	9	15	44	101		(57)					
20	29	44	12	20	58	134		(76)					
25	37	56	15	31	77	176		(102)					
30	44	66	18	45	88	217		(129)					
40	59	89	24	80	118	311		(193)					
50	73	110	30	125	146	411		(265)					
55	80	120	33	150	160	463		(303)					
60	88	132	35	180	176	523		(347)					
65	95	143	38	215	190	586		(396)					
		0		100		200		300		400		500	600
		FEET											

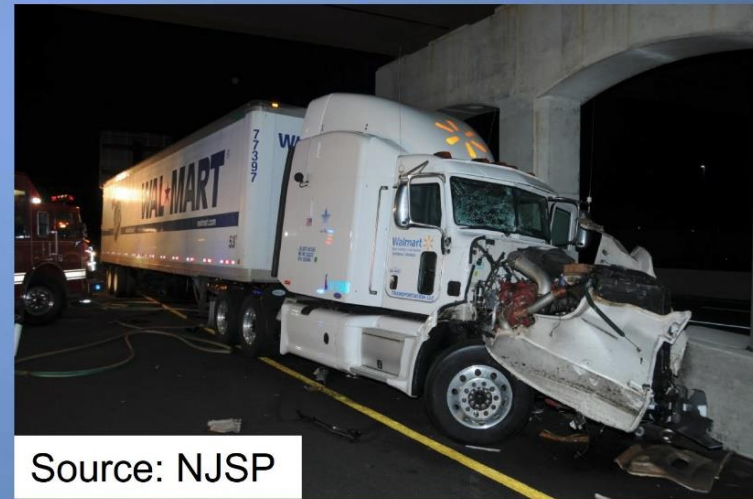
Perception & Reaction Distance = feet traveled in 1.5 seconds.
 Brake Lag Distance = feet traveled in 0.4 second.
 Effective Braking Distance = feet traveled after brake shoes contact the drums.
 Total Stopping Distance = Perception + Brake Lag + Effective Braking Distance.
 Assured Stopping Distance = all four of the above + 2.0 seconds.

*This chart shows only stopping distances for dry roads.
 For wet, snow covered, or icy roads, multiply Total Stopping Distance by 3 to 12 times.*

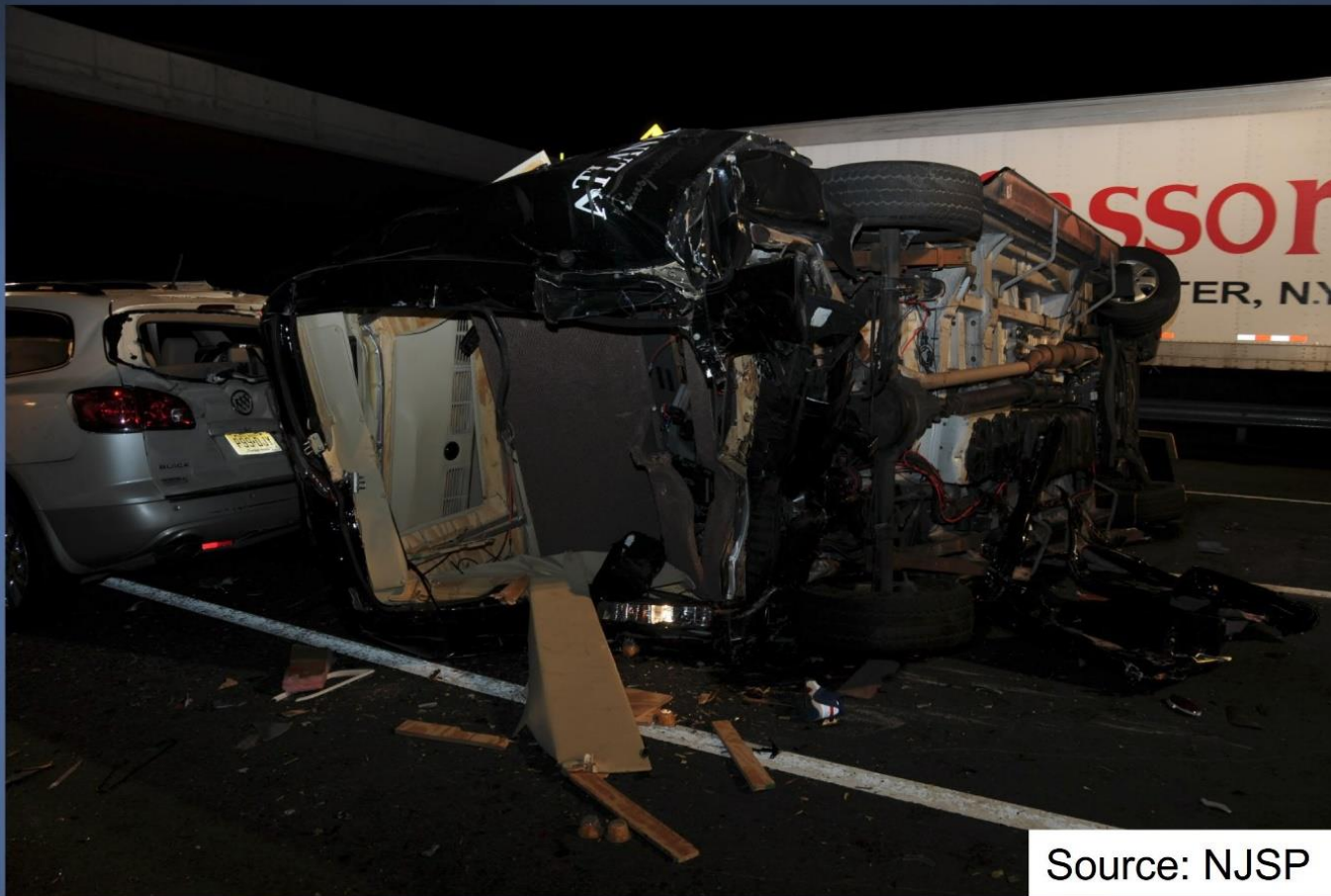


Cranbury, NJ – June 7, 2014

Combination Vehicle



Limo van



Vehicle Modifications - Partitions



Source: Atlantic Transportation



Source: Atlantic Transportation

Front Partition

- No emergency exits required
- Limo van not a defined “bus”

Back Partition

Passenger Compartment Damage



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“When the Walmart Transportation truck driver reported to work at the Walmart Transportation distribution center in Smyrna, Delaware, at 11:00 a.m. on June 6, 2014, he had been up all night driving in his personal vehicle from his Georgia residence to his Delaware workplace, a trip of about 12 hours. When the crash occurred at 12:55 a.m. on June 7, the driver was in the sixth leg of his workday and had been on duty 13 hours 32 minutes of a 14-hour duty day. As he approached the work zone in Cranbury, he had had only 4 hours of sleep opportunity in the preceding 33 hours. His fatigued condition diminished his awareness, and he failed to reduce his speed or respond appropriately to the slowed vehicles ahead of him, resulting in the crash.”

“Awake in excess of 28 hours”

Was Kevin Roper in violation of 49 CFR §395 (HOS)?

What about §392.3?

*“No driver shall operate a commercial motor vehicle while the driver’s ability or alertness is so impaired through **fatigue, illness, or any other cause** as to make it unsafe for him/her to begin or continue to operate the commercial motor vehicle.”*



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AGENDA

FATIGUE

- Solutions

HOURS OF SERVICE REGULATIONS

HOS Rules

10-hour break

11-hour rule

14-hour rule

60-hour (or 70-hour) rule

30-minute break rule (8 hour rule?)

34-hour reset

Record of Duty Status (RODS, or Logs)

Electronic Logging Devices (ELDs)

FATIGUE MANAGEMENT PROGRAMS (FMP)

No single, simple solution

Comprehensive approach to effectively manage fatigue must include:

- Corporate culture
- Education and training
- Sleep disorder screening and treatment
- Scheduling and tools
- Fatigue monitoring and management technologies
- **Collaboration between drivers, families, management, dispatchers, and customers**
- Applicable regardless of industry type and fleet size
- IMPLEMENTATION

FATIGUE MANAGEMENT PROGRAMS (FMP)

Resources:

North American Fatigue Management Program (NAFMP)

<http://www.nafmp.com>

Industry Groups

Michigan Center for Truck Safety (www.truckingsafety.org)

Michigan Trucking Association (www.mitrucking.org)

MTA Safety Management Councils

National Safety Council (www.nsc.org)

Owner/Operators Independent Drivers Assoc. (www.ooida.com)



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Regulatory Compliance vs. Safety



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Code of Federal Regulations (CFR)

...is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the **Federal Register** by the executive departments and agencies of the federal government of the United States. The CFR is divided into **50 titles** that represent broad areas subject to federal regulation.



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CFR Titles

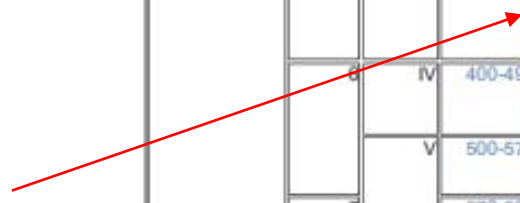
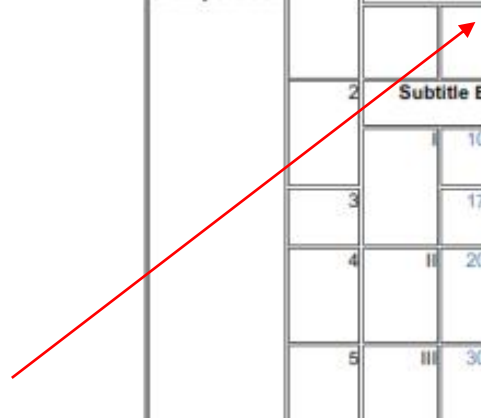
- Title 1: General Provisions
- Title 2: Grants and Agreements
- Title 3: The President
- Title 4: Accounts
- Title 5: Administrative Personnel
- Title 6: Domestic Security
- Title 7: Agriculture
- Title 8: Aliens and Nationality
- Title 9: Animals and Animal Products
- Title 10: Energy
- Title 11: Federal Elections
- Title 12: Banks and Banking
- Title 13: Business Credit and Assistance
- Title 14: Aeronautics and Space (also known as the Federal Aviation Regulations)
- Title 15: Commerce and Foreign Trade
- Title 16: Commercial Practices
- Title 17: Commodity and Securities Exchanges
- Title 18: Conservation of Power and Water Resources
- Title 19: Customs Duties
- Title 20: Employees' Benefits
- Title 21: Food and Drugs
- Title 22: Foreign Relations
- Title 23: Highways
- Title 24: Housing and Urban Development
- Title 25: Indians
- Title 26: Internal Revenue (also known as the Treasury Regulations)
- Title 27: Alcohol, Tobacco Products and Firearms
- Title 28: Judicial Administration
- Title 29: Labor
- Title 30: Mineral Resources
- Title 31: Money and Finance: Treasury
- Title 32: National Defense
- Title 33: Navigation and Navigable Waters
- Title 34: Education
- Title 35: Reserved (formerly Panama Canal)
- Title 36: Parks, Forests, and Public Property
- Title 37: Patents, Trademarks, and Copyrights
- Title 38: Pensions, Bonuses, and Veterans' Relief
- Title 39: Postal Service
- Title 40: Protection of Environment
- Title 41: Public Contracts and Property Management
- Title 42: Public Health
- Title 43: Public Lands: Interior
- Title 44: Emergency Management and Assistance
- Title 45: Public Welfare
- Title 46: Shipping
- Title 47: Telecommunication
- Title 48: Federal Acquisition Regulations System
- Title 49: Transportation
- Title 50: Wildlife and Fisheries



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CFR 49 (Transportation) Part 40 Parts 300-399

Title	Volume	Chapter	Browse Parts	Regulatory Entity
Title 49 Transportation	1	Subtitle A—Office of the Secretary of Transportation		
			1-99	OFFICE OF THE SECRETARY OF TRANSPORTATION
	2	Subtitle B—Other Regulations Relating to Transportation		
		I	100-177	PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION
			178-199	FEDERAL RAILROAD ADMINISTRATION, DEPARTMENT OF TRANSPORTATION
		II	200-299	FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION
		IV	400-499	COAST GUARD, DEPARTMENT OF HOMELAND SECURITY
			500-571	NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION
		V	572-599	FEDERAL TRANSIT ADMINISTRATION, DEPARTMENT OF TRANSPORTATION
			600-699	NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK)
		VIII	800-999	NATIONAL TRANSPORTATION SAFETY BOARD
			XI	1000-1199
XII		1200-1399		RESEARCH AND INNOVATIVE TECHNOLOGY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION [RESERVED]
	1400-1499	TRANSPORTATION SECURITY ADMINISTRATION, DEPARTMENT OF HOMELAND SECURITY		





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DOT & FMCSA 49 CFR

- Part 40 – DOT A&D Testing (how)
- Part 382 – FMCSA A&D Testing (when)
- Part 383 – CDL
- Part 387 – Liability Insurance
- Part 390 – General
- Part 391 – Driver Qualification
- Part 392 – Driving CMVs
- Part 393 – Parts & Accessories
- Part 395 – Hours of Service
- Part 396 – Inspection, Repair, & Maintenance
- Part 397 – Hazardous Materials



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Regulatory compliance
is doing the correct thing.

Safety
is doing the right thing.

Some Final Thoughts

- Every Day
- Every Mile
- What's Important

QUESTIONS?





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