

***SLEEP DISORDER  
&  
ROAD ACCIDENT***

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# *Occupation*

- ◆ Police & fire protection
  - ◆ Medical care
  - ◆ **Transportation**
  - ◆ Communication
  - ◆ Energy & water utilities
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درصد زيادي از رانندگان كار خود را در ساعات  
غير معمول روزانه و به شكل شيفت كاري  
انجام

مي دهند

عوامل متعددي باعث بروز حوادث رانندگي مي شوند.  
عوامل انساني عامل 60% اين حوادث مي باشد

شيفت كاري و اختلال خواب يكي از دلایل مهم تاثير سوء بر عملکرد راننده بوده و يك فاکتور انسانی در افزايش اشتباه و بروز حوادث است.



# 2006 *Sleep in America*

- 51% of adolescents who drive report that they have driven drowsy in the past year


# Automobile Accidents and Sleep

- ◆ The US Department of Transportation estimates that **100,000** accidents reported are due to drowsiness and/or fatigue.
- ◆ These crashes result in 1550 deaths annually (4% of traffic fatalities) and **\$12.5** billion in monetary losses.
- ◆ **1 million** crashes are linked to ***inattention***, which increases with fatigue



- ◆ **Night and shift work have been associated with:**

**Immediate risk to worker safety**  
**Long term risk to worker health**

- ◆ **sleep disturbance**
  - ◆ **Chronic fatigue**
  - ◆ **Higher accident**
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# WHAT CAUSES FATIGUE?

- **Job Demands**

- workload & breaks
- shift duration
- type of work

- **Human Biology**

- sleep
- body clock
- health, age



**Driver  
Fatigue**

- **Work Organization**

- trip scheduling
- pay system

- **Life Outside Work**

- family & friends
- commuting
- standard of living



# Fatigue

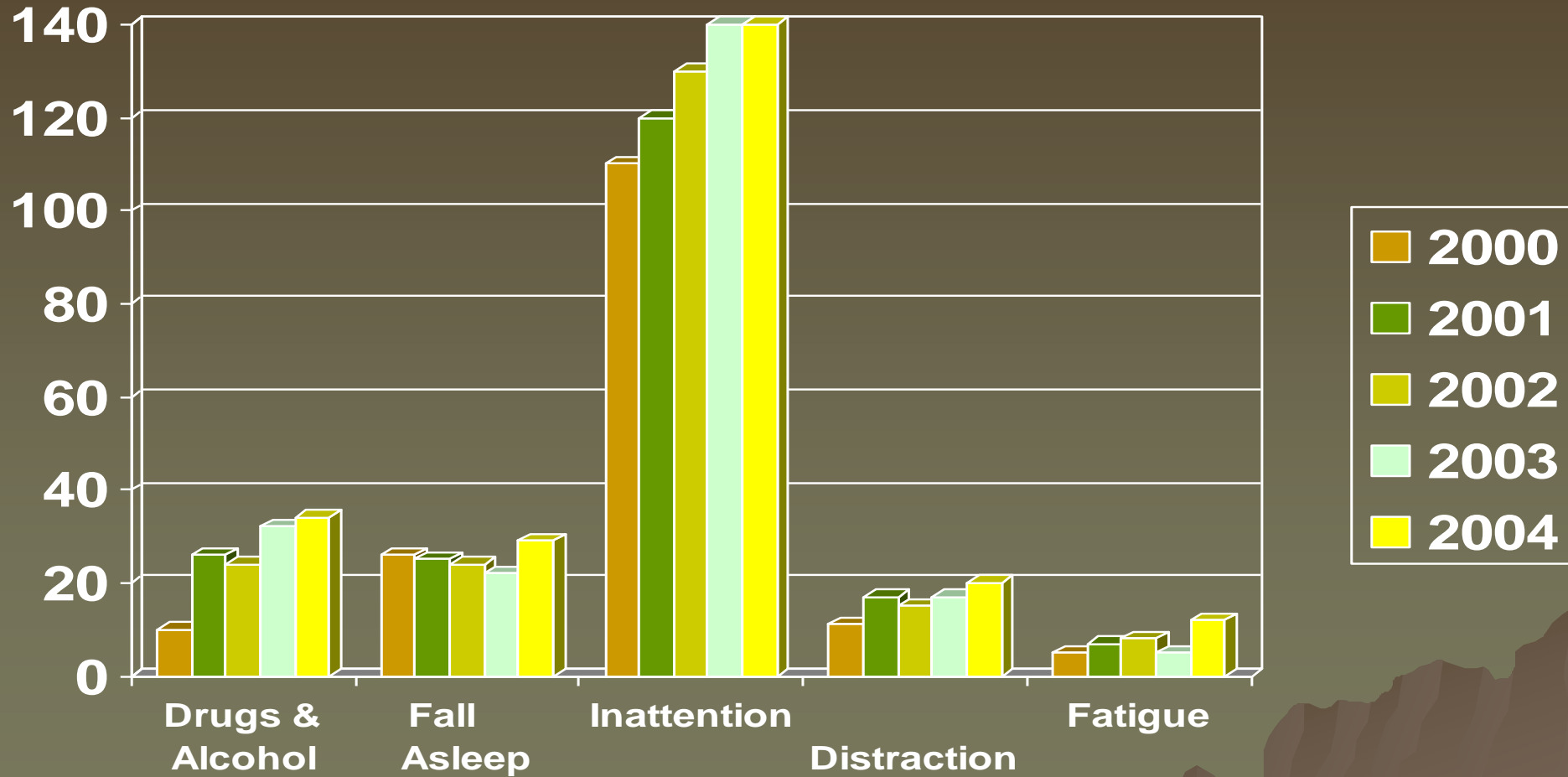
- Lack of concentration while on duty.
- Potential Unsafe Conditions.
- Stress/fatigue.
- ACCIDENT*



# *The Effects of Sleepiness and Fatigue*

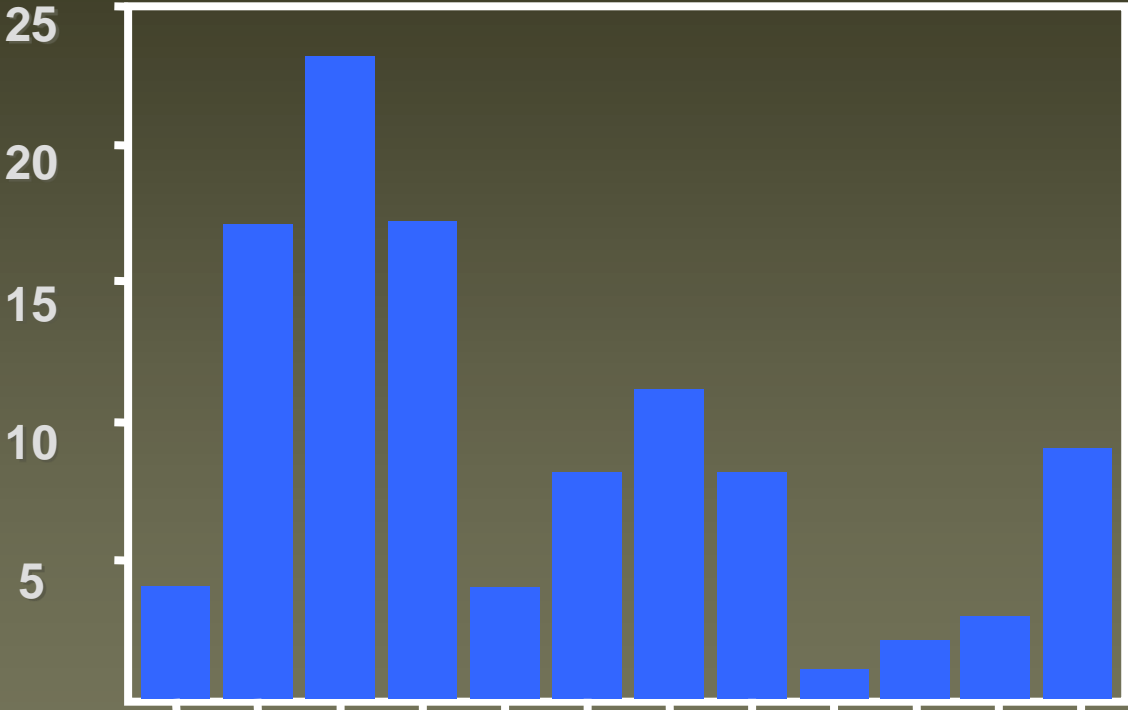
- Impaired **reaction time**, judgment and **vision**
- Problems with **information processing** and short-term memory
- Decreased performance
- Increased moodiness and aggressive behaviors
- Increased “microsleeps” – brief (2/3 seconds) **sleep episodes**

# *Human Contributing Factors in Fatal Crashes*



# ***TRUCK CRASHES***


**Number  
of  
crashes**




**1 am    5 am    9 am    1 pm    5 pm    9 pm**

**Time of day**

# Special At-Risk Groups Include

- Young people
  - **Shift workers**
  - Commercial drivers
  - ***People with undiagnosed or untreated sleep disorders***
  - Business travelers
  - The elderly
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# ***Before A Trip***

- Get a good night's sleep, preferably 8hrs
  - Schedule breaks every 100 miles or 2 hours during long trips
  - Travel with a companion to help watch for the signs of fatigue
  - Avoid alcohol and sedating medications
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# ***Before A Trip***

- Take a nap or drink caffeine before work if tired
- ***Consult your physician or local sleep disorders center*** if you are experiencing frequent daytime sleepiness or having difficulty sleeping at night

# Education Reduces Sleepiness Injuries

