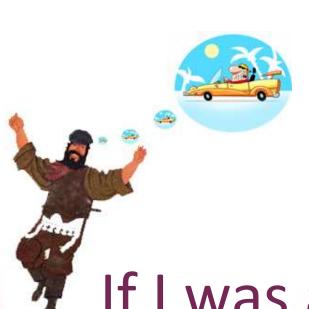
# Fatigue and Traffic Accidents

Michael H. Cale'
UNECE, Geneva, September
2011



If you wish upon a star \*







## 20%

Country	Lives Saved	Country	Lives Saved
Country  Argentine Australia Austria Belgium Canada Czech Rep Denmark Finland France	1473 298 127 191 426 180 61 56 855	Korea Lithuania Luxembourg Malaysia Netherlands New Zealand Norway Poland	1168 74 10 1349 129
Germany	830	Portugal Slovenia	34
Greece	291	Spain	543
<ul><li>Hungary</li><li>Ireland</li></ul>	164 48	Sweden Switzerland	72 70
□ srael	80	United Kingo	
Italy Japan	847 1154	United States	s 6762

### TOTAL 18959 LIVES SAVED



## 15%

Country	Lives Saved	Country	Lives Saved
Argentine Australia Austria Belgium Canada Czech Rep Denmark Finland France Germany Greece Hungary Ireland	1105 224 95 143 320 135 45 42 641 623 218 123 36	Korea Lithuania Luxembourg Malaysia Netherlands New Zealan Norway Poland Portugal Slovenia Spain Sweden Switzerland	876 56 7 1012 97 d 58 32 686 126 26 407 54 52
□	60 636	United Kinge United State	
Japan	866		

### TOTAL 14219 LIVES SAVED

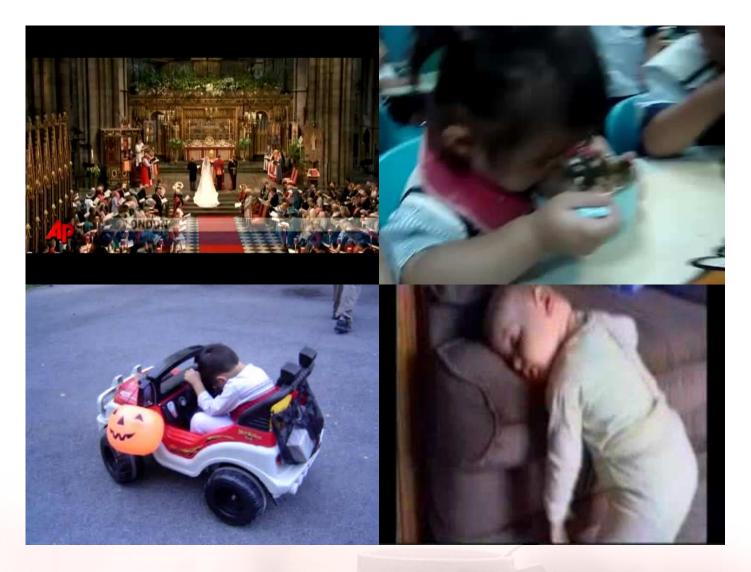


## 10%

Country	Lives Saved	Country	Lives Saved
Argentine Australia Austria Belgium Canada Czech Rep Denmark Finland France Germany Greece Hungary Ireland Israel	577 736 149 63 96 213 90 30 28 427 415 146 82 24	Country  Korea Lithuania Luxembourg Malaysia Netherlands New Zealand Norway Poland Portugal Slovenia Spain Sweden Switzerland United Kingdo	584 37 5 675 64 38 21 457 84 17 271 36 35
Italy  Japan	40 424	United States	

### TOTAL 9480 LIVES SAVED





# This might be funny

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# This is not



# The main reasons for traffic accidents in Israel 2007 according to the police data



# Proportion of fatal accidents due to

Not obeying traffic light or road sign	9.7%
Leaving your own lane	14%
Tailgating	7%
Taking other vehicle's right of way	10%
Excessive speed	17.5%
Wrong turn	1.5%
Pedestrian's Behavior	17%
Driving under the influence of alcohol or drugs	7.5%
Illegal overtaking	2.7%
Other and personal	4.2%

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#### 1. Extent



10% - 25% of all traffic accidents are related to fatigue because...

At least 25% admit having fallen asleep behind the wheel at least once in the past year



At least 50% admit having fallen asleep behind the wheel at least once

Between 3% and 10% of the driving population suffer from sleep apnoea



### 2. Fatigue or Sleepiness is caused by



Disturbed (interrupted) sleep



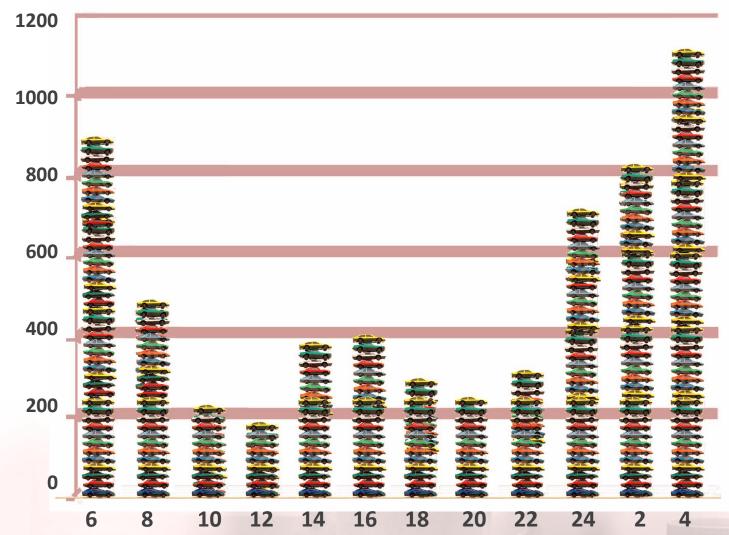




Alcohol, drugs, medication, time of the day, temperature etc



#### Number of traffic accidents per driven mile by time of day





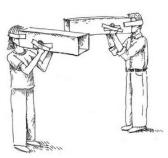
### 3.Effects

#### Impaired communication skills



Longer Reaction times





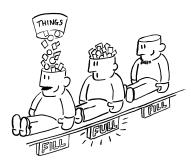
**Tunnel vision** 

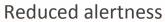
#### Impaired intellectual functioning





#### Memory problems







irritableness and aggressive driving style





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#### 4. How bad can it be?

After being awake 17hrs you function as if you have 0.05 BAC



After being awake 24hrs you function as if you have 0.10 BAC



### 4. How bad can it be?







#### 5. How to deal with fatigue if you are the driver?

Sleep enough before you drive



Coffee or energy drink and 20min snooze



Cognitive Task



Motor task like eating sunflower seeds





#### 6. How to deal with fatigue if you are the government?

Create laws against driving whilst tired and enforce them



Invest in educational campaigns and attitude changing projects e.g. "Think"



#### 6. How to deal with fatigue if you are the government?

Target trucking companies with explanations, programs and enforcement























# Fatigue and Traffic Accidents

..and if I put you to sleep,
Please don't drive....!

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