



National Transportation Safety Board

Managing Fatigue to Enhance Personal Safety

Mark R. Rosekind, Ph.D.
Board Member

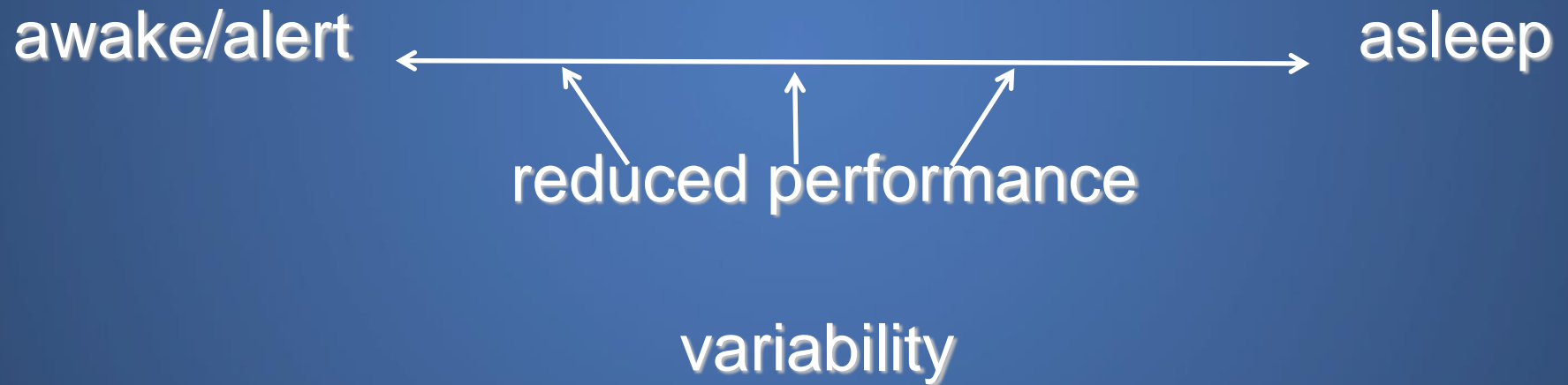
NTSB All Hands Meeting
January 8, 2013

Fatigue Risks

Fatigue can degrade
every aspect of
human capability.



Fatigue Risks

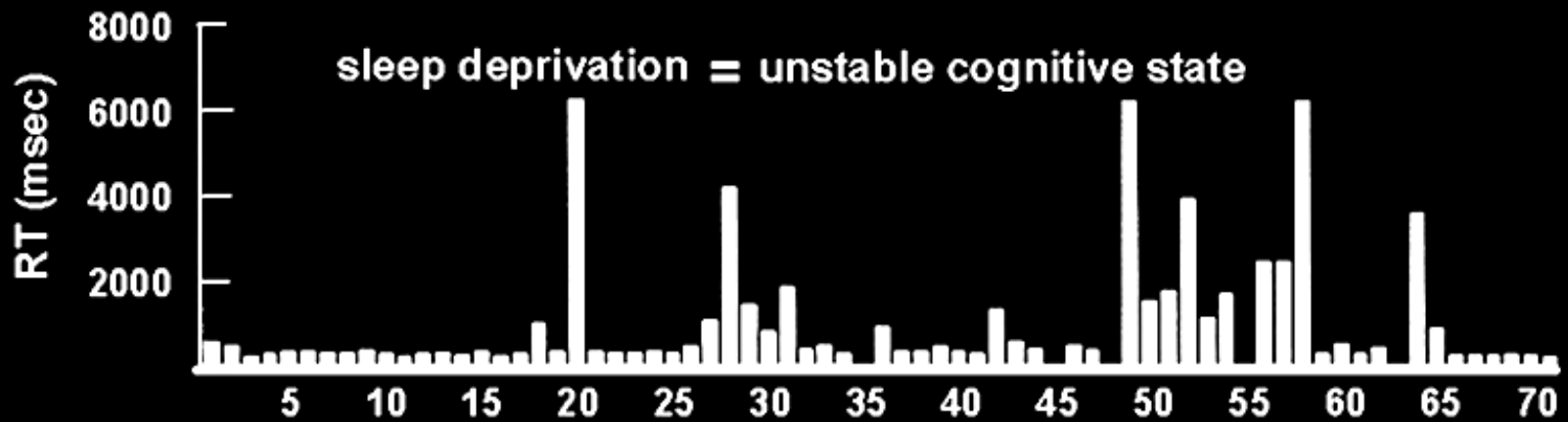
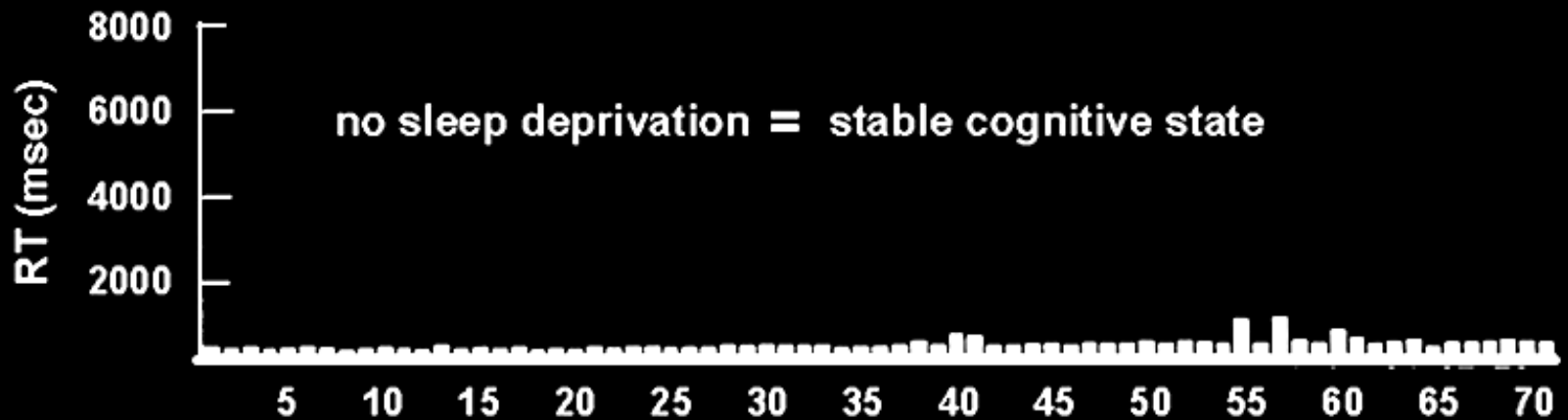


Fatigue Risks

- degraded 20 – 50%+:
 - reaction time
 - memory
 - communication
 - situational awareness
 - judgment
 - attention
 - mood
- increased:
 - irritability
 - apathy
 - attentional lapses
 - microsleeps

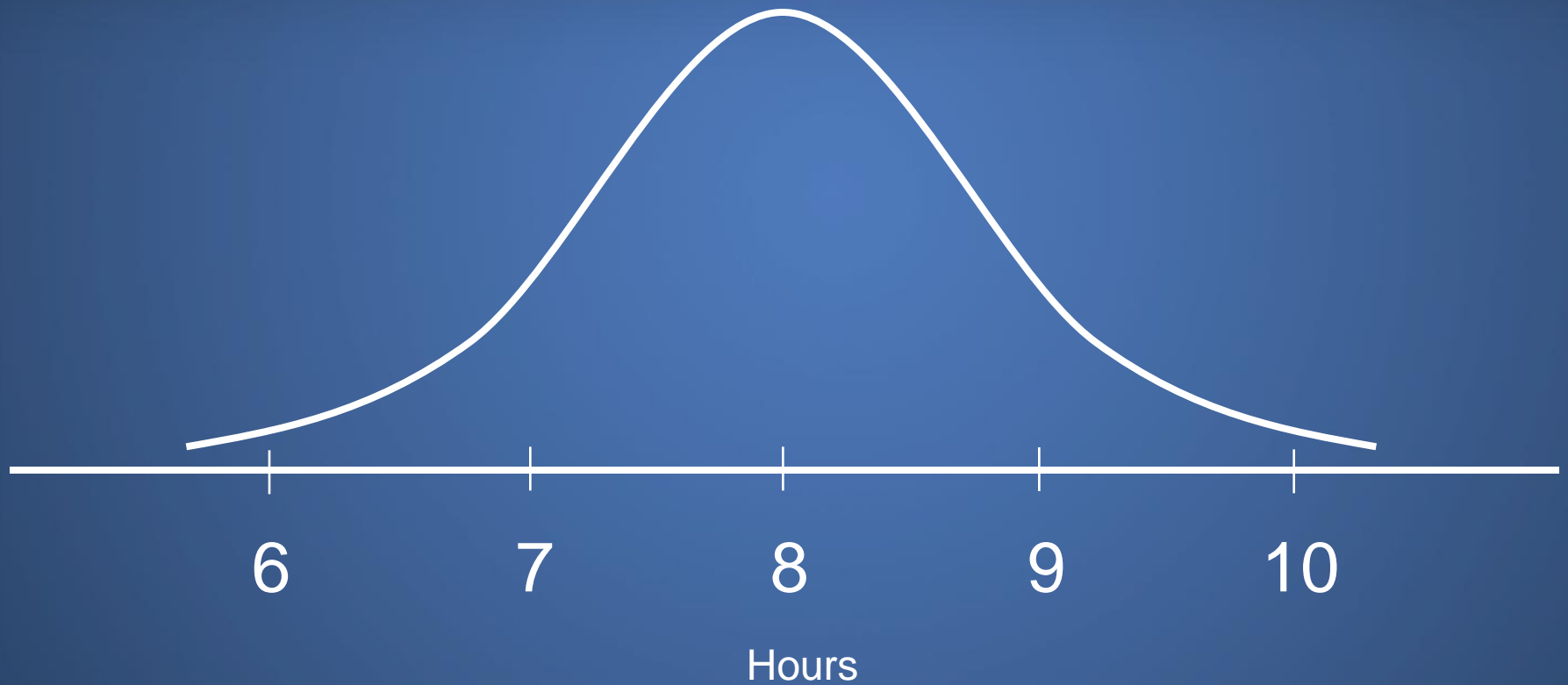


Fatigue and Reaction Times



consecutive RTs across a 10-min PVT performance task

Sleep Requirement

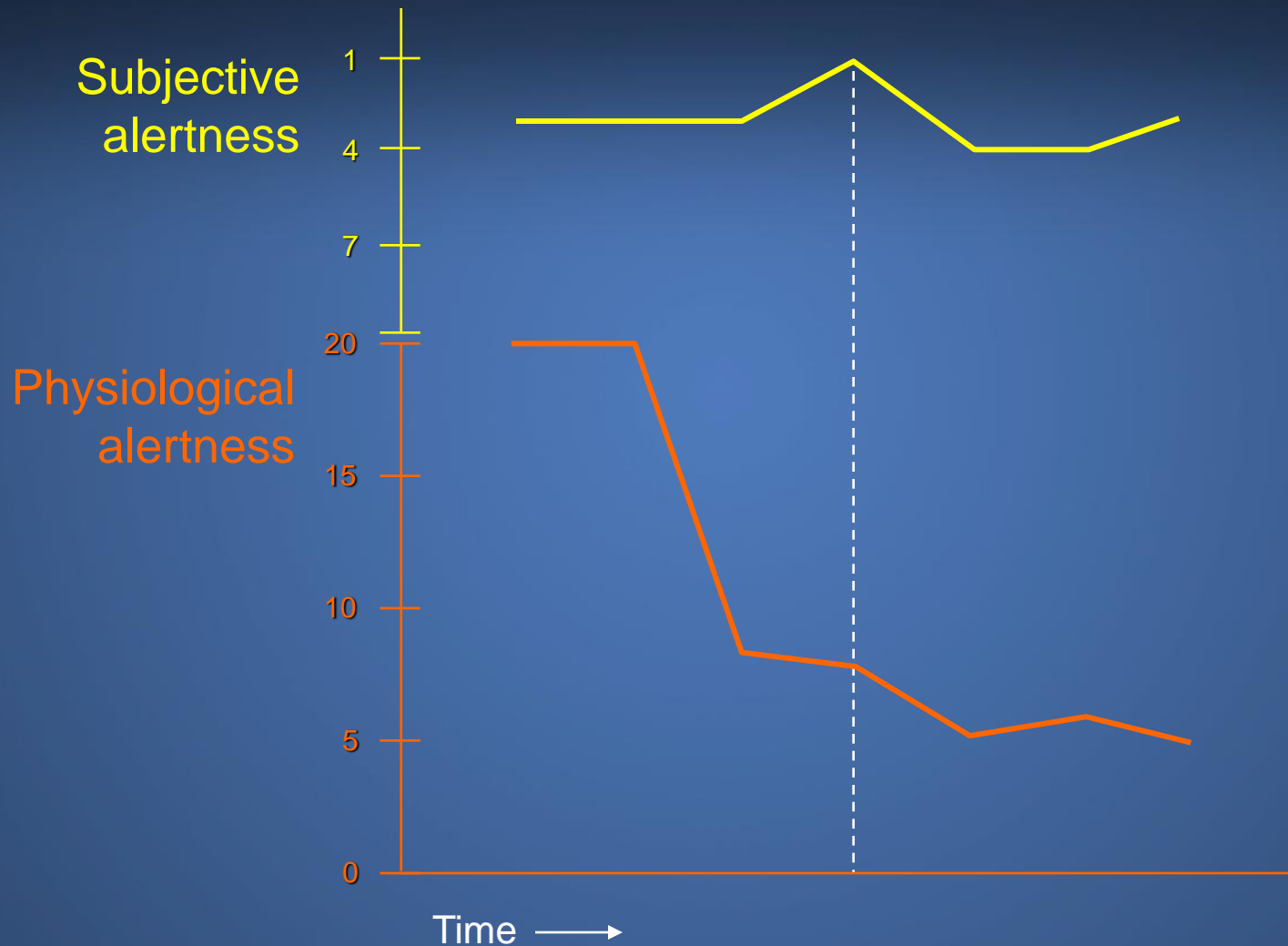


Fatigue Factors

- sleep
- circadian clock
- hours awake
- sleep disorders



Alertness Reports Often Inaccurate



Adapted from Sasaki et al., 1986

Managing Fatigue: There is No Magic Bullet



Manage Fatigue = Enhance Safety

- Culture change
- Get educated
- Acknowledge risk
- Take action!





National Transportation Safety Board