



**NTSB** National Transportation Safety Board

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*Office of Highway Safety*

**Technological  
Countermeasures for  
Fatigue and Fatigue-  
Related Impairment**

Jana Price, Ph.D.

# Fatigue Countermeasures

- Environment-based
  - Rumble strips
  - Rest areas
- Driver-based
  - Eyelid closure monitors
- Vehicle-based
  - Lane departure warning systems
  - Steering wheel monitors

# Environment-based Systems



# Environment-based Systems

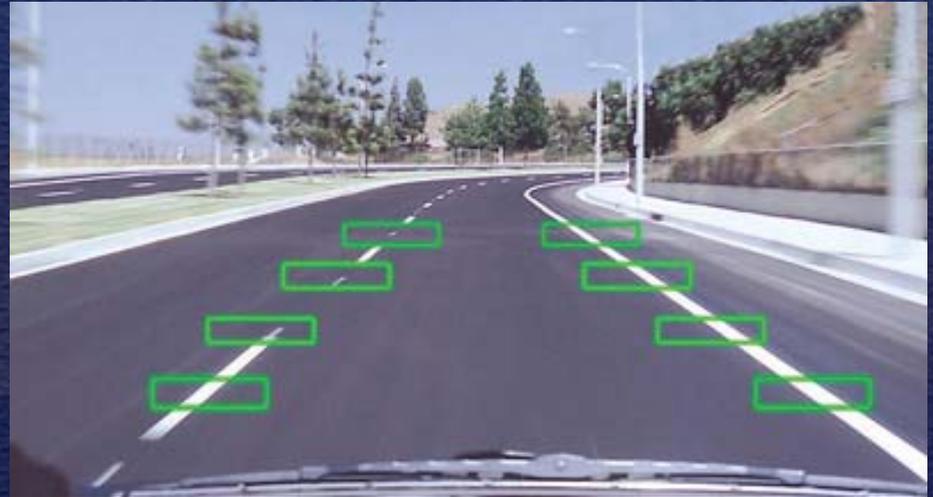


# Driver-based Systems



# Vehicle-based Systems

- Lane departure warning system



- Steering monitor

# Summary

- Technological countermeasures have the potential to detect and mitigate fatigue-impaired driving
- Research and development in this area should be expedited to reduce the occurrence of fatigue-related accidents



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