

Bridge Preservation for Truck Overload

Prepared for :

ACEC-WSDOT Structures Geotechnical Team Meeting

January 24th 2020,

Tumwater, WA

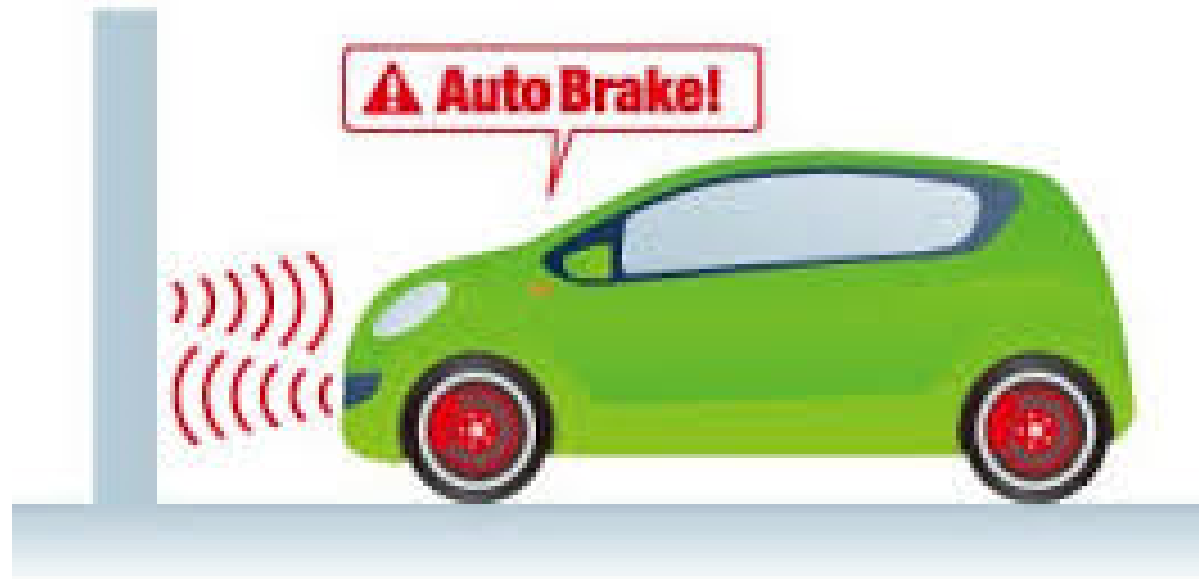
Joan Zhong-Brisbois, CDM Smith



Communicating with
RADAR, Video Camera,
GPS, WiFi

Courtesy of eng.auburn.edu

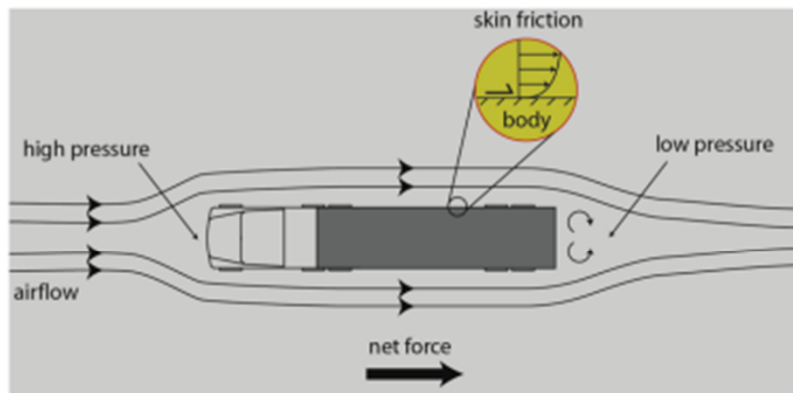
Quick response – save lives



Courtesy of asTech

Fuel Efficiency, Less Emission

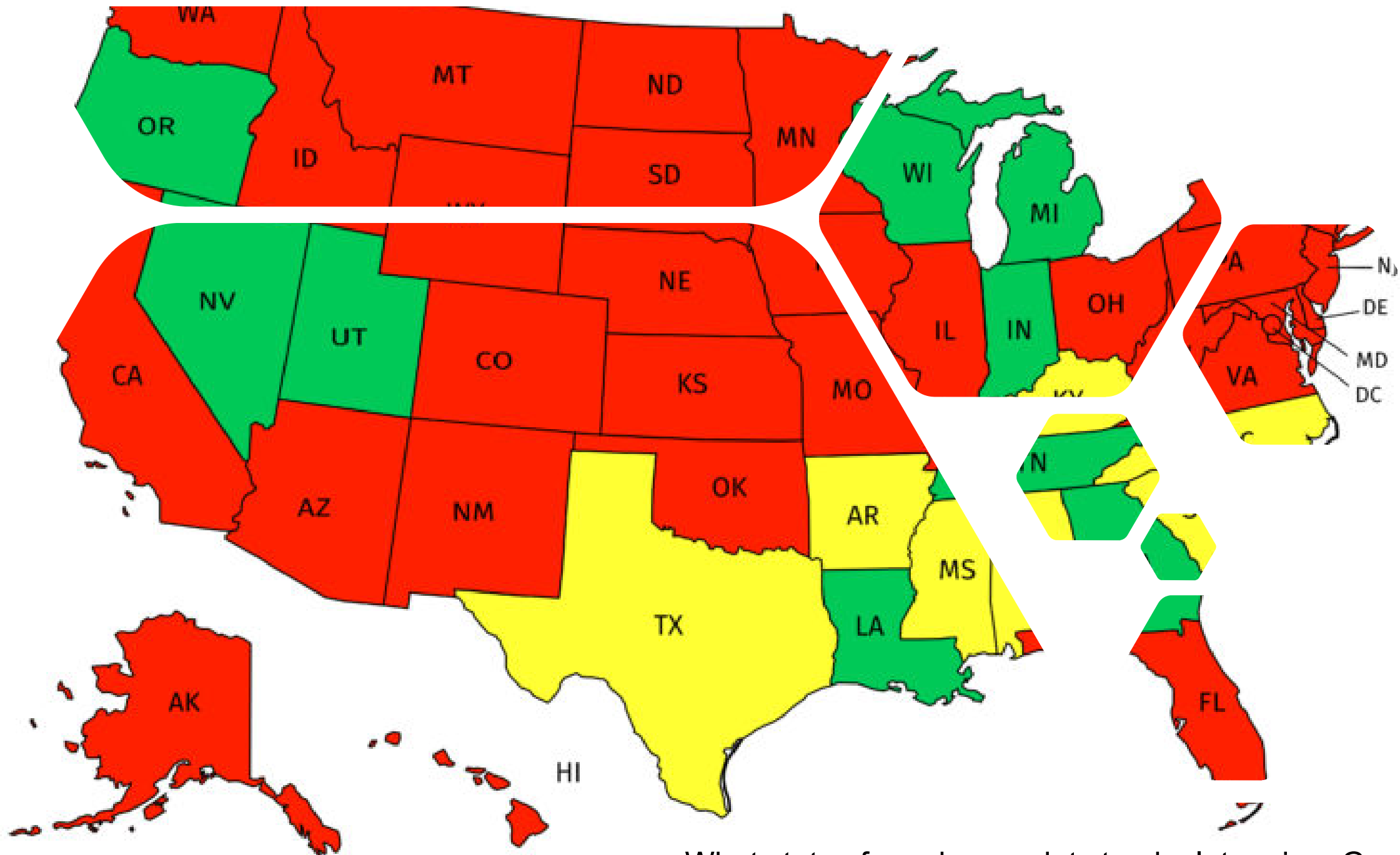
Improved fuel economy is achieved through enhanced aerodynamics



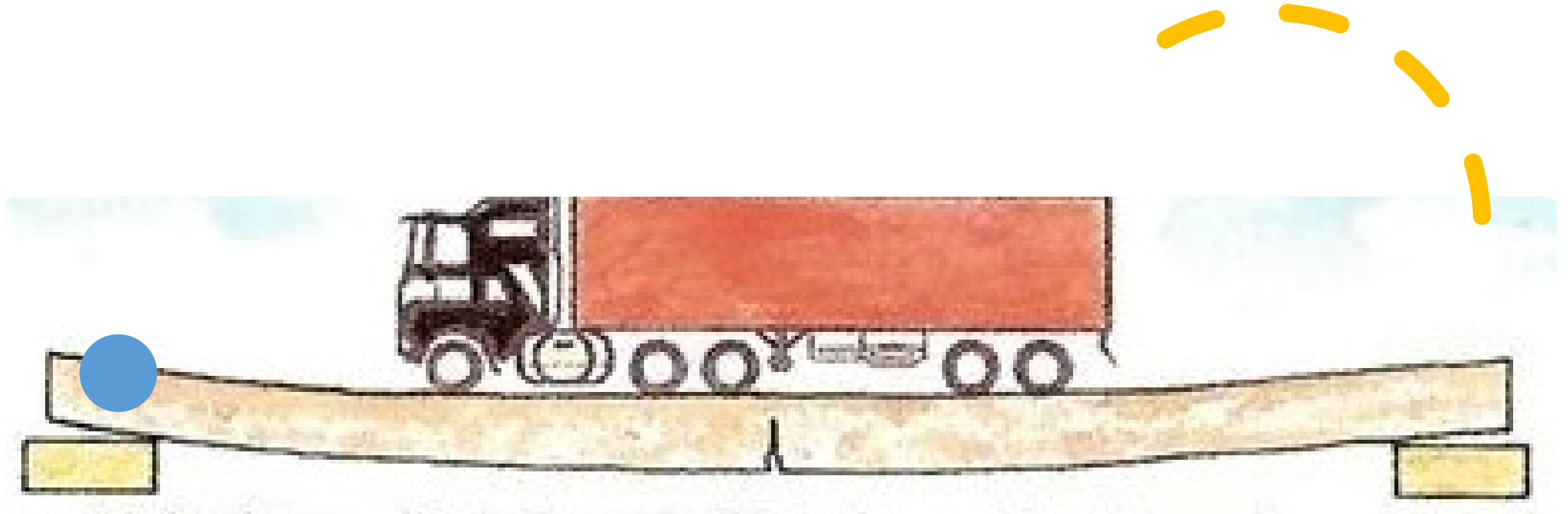
$$Drag = C_D \times S \times (1/2) \rho U^2$$

shape cross-section speed





What states favor heavy-duty truck platooning. Green indicates highest acceptance level. – Courtesy of Peloton Technology



What happens to bridges?

Current Policy

- Oversize and Overweight Permits
- Restrictions for Oversize/Overweight Motor Vehicles
- Vehicle Weight Table (RCW 46.44.041)

Adaptive Policies?

1. Adjust platooning configuration
 2. Specify minimum following distance
 3. Active bridge monitoring
 4. Extra “weight toll”
- ...