Forward Collision Warning

350 ft or 3.0 sec
Forward Collision Warning

- Forward Collision Warning Systems (FCWS) available for ALL commercial vehicles
  - Bendix
  - Meritor WABCO
  - Mobileye
- Cost range $1,000 - $2,000
Forward Collision Warning

- No federal regulations for collision warning systems
- FMCSA Voluntary Operational Requirements (July 2005)
- Government / Industry Research
  - 21% rear-end crash reduction
  - Prevention of 4,700 crashes; 2,500 injuries; and 96 fatalities per year
Impacting Vehicle

- 2008 Volvo Truck-Tractor

- Weight 40,400 lbs
- Speed 69 mph
- Antilock brakes & electronic stability control (ESC)
- Brakes adequate
- Sufficient roadway friction
**FCWS in Mitigating This Accident**

- FCWS alert at 350 feet
  - Vehicle traveling at 103 feet / sec
  - **3.4 seconds** to react and avoid

- Scenarios with FCWS
  - #1 stopped traffic, **impact 70 - 39 mph**
  - #2 slow-moving traffic, **impact 38 - 0 mph**
  - #3 active braking, **slows to stop**

- Animations
Animation - Scenario 3
NTSB Safety Recommendations

• H-01-6 and -7, from NTSB Special Investigation on Rear-end Collisions
  – To NHTSA, complete rulemaking and standards, then require collision warning systems and adaptive cruise control

• H-08-15, from Osseo, Wisconsin, report
  – To NHTSA, determine if collision warning systems with ESC and active braking will reduce accidents; if so, require them