

# ITS and Freight

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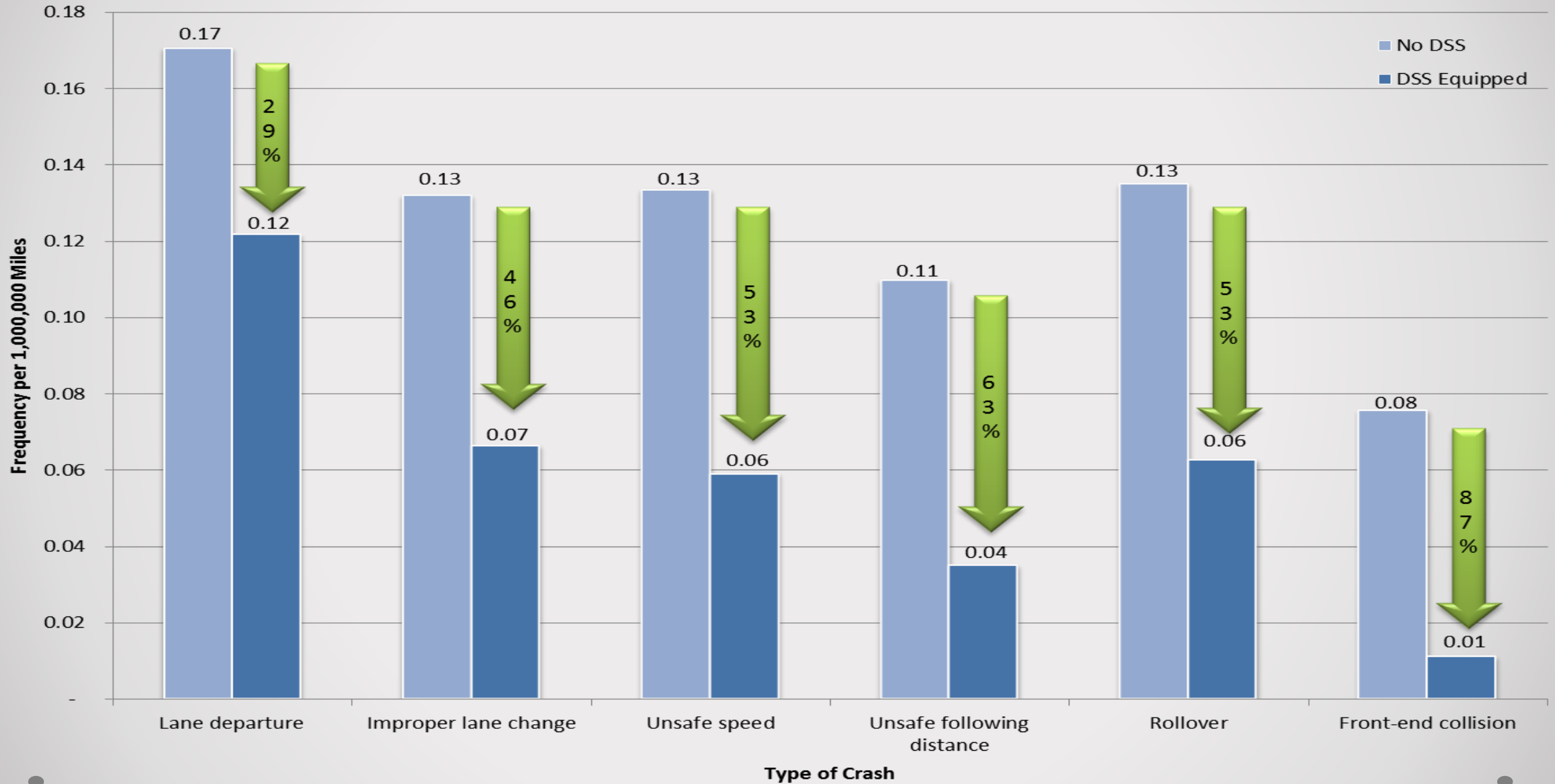
# Trucking Industry Facts

- Over 500,000 trucking companies in the US
  - 97% have fewer than 20 trucks
- 70% of all goods (by weight) in the US move by truck
  - 83% by value
  - 97% of all consumer goods
- Future modal shares are expected to shift more to truck
  - Over 80% of US communities are served only by truck
  - Shipments traveling >500 miles = only 13.4% of the truck freight.
  - If rail intermodal use doubled by 2020, market share will still be less than 2%

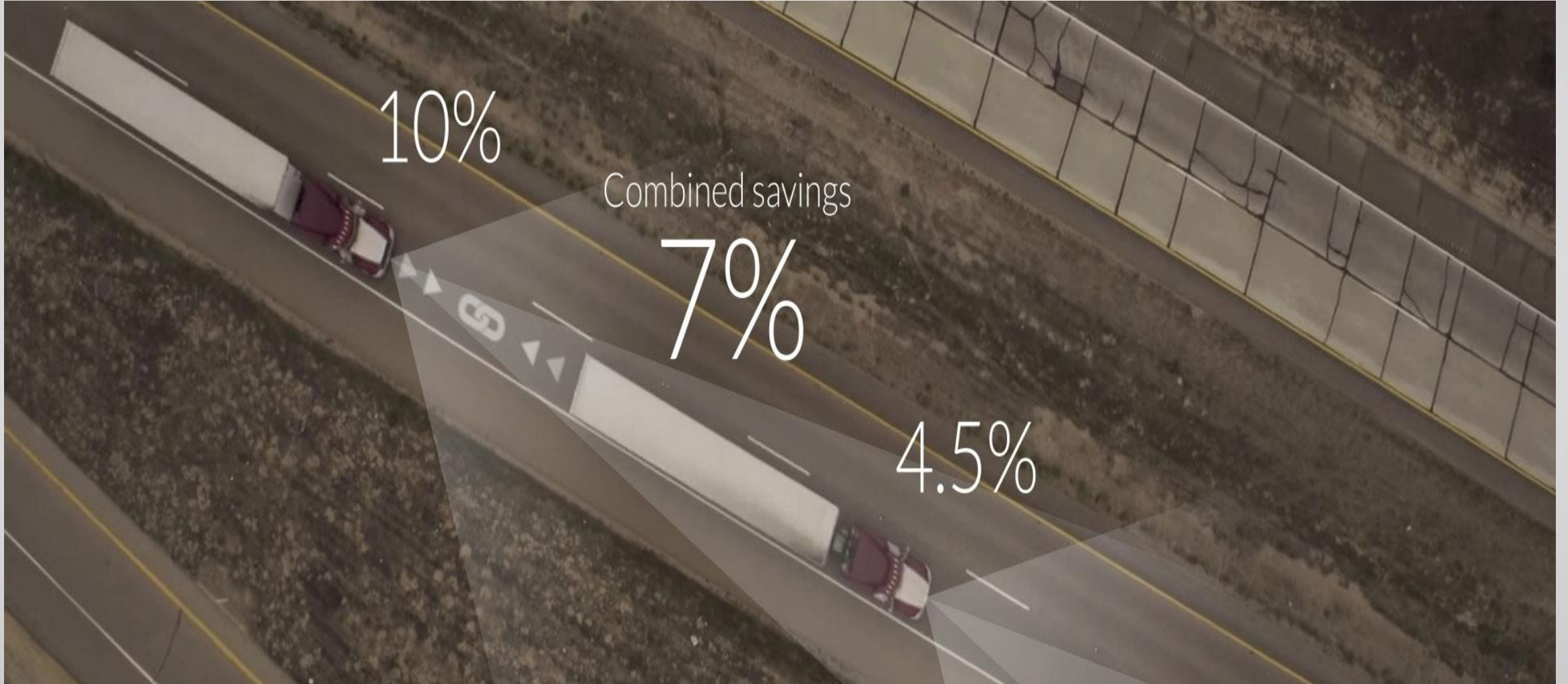
# V2V, V2I, V2X, IoT

- Technologies are different and new ones are emerging at an accelerated rate
  - DSRC, 4G, 5G, Blue Tooth
  - Radar, Lidar, Visioning
  - Spectrum debate in DC
- What do these technologies foretell?
  - Platooning and eventual autonomy
  - Truck parking and services
  - Route planning
  - Demand / Congestion management
  - Remote enforcement
  - Predictive maintenance
  - VMT revenue facilitation
  - Intermodal / Commercial facilitation

## DriveSafe System Equipped Tractors vs. Non-DSS Equipped Tractors: January 2011 - December 2012



# Platooning – V2V Cooperative Braking and Acceleration



# 10 Pounds in a 5 Pound Sack?

- USDOT projects that freight levels will increase 40% by 2045
  - Truck tonnage will increase 44%
- It is impossible to build enough lanes to stay ahead of demand
- What are possible solutions?
  - Targeted infrastructure upgrades
  - On-board technology and safety upgrades
  - Performance Based Standards (PBS) for heavy-duty vehicles
  - Platooning and connected AV technologies
  - Technology based system management



length of twin trailers  
to 33' will:

- **REDUCE CO2 EMISSIONS**
  - 2.9 Million Fewer Tons Of C02 Emissions
- **DECREASE TRUCKS ON THE ROAD**
  - 3.1 Billion Fewer Miles Driven
- **IMPROVE FUEL EFFICIENCY**
  - 255 Million Gallons Of Fuel Saved
- **REDUCE HIGHWAY CRASHES**
  - 4500 Fewer Highway Crashes

# Thank You

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