Speed and Control - Stopping Distances

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Hazard Perception, Reaction and Vehicle Emergency Stopping Distances

- Over the past two decades, the number of truck accidents has increased by 20%. According to the Federal Motor Carrier Safety Administration (FMCSA),
- When the driver of a garbage truck has an accident many times the result or **failure is not seeing the other party. It may be the truck is going to fast that the driver can't react or turns in front of a pedestrian or bicyclist.** Even motor vehicles can be difficult to see.


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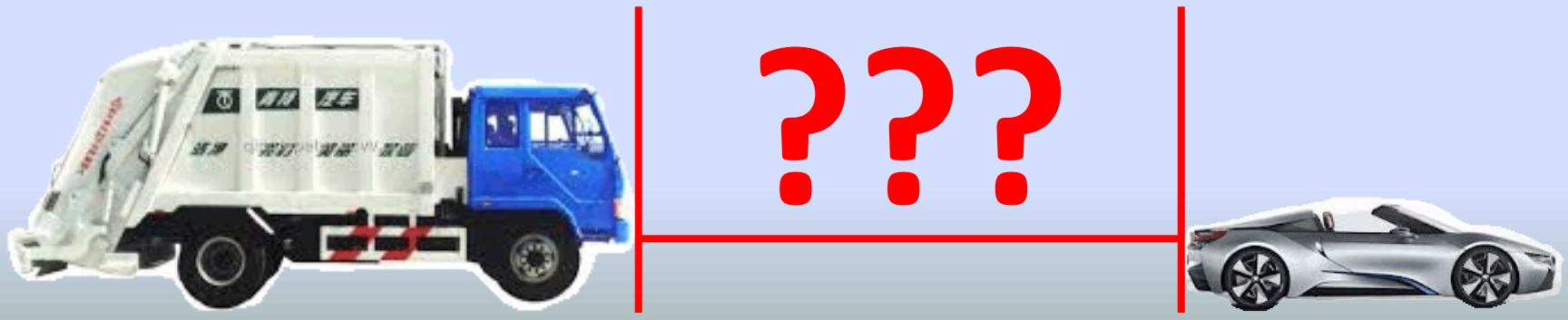
Five Most Common Words on a Crash Report???

I

DID NOT

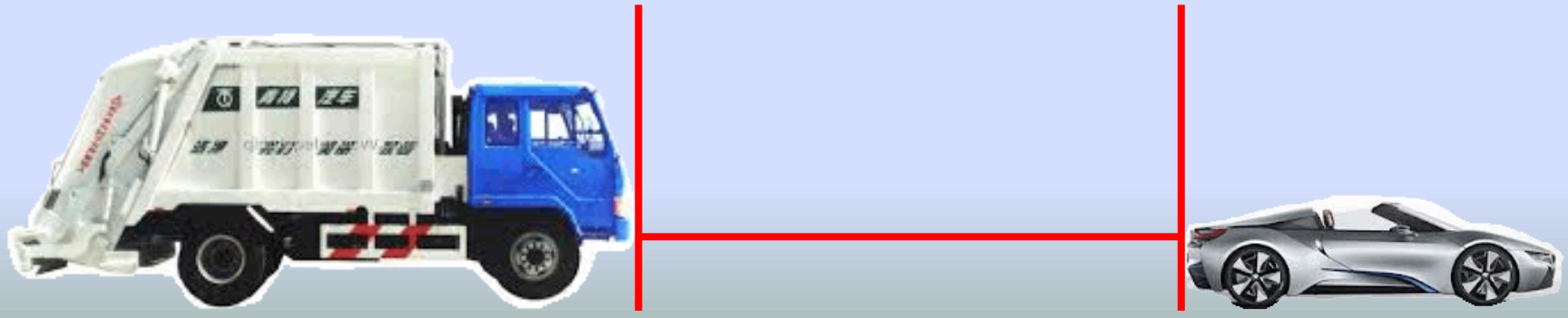
SEE IT

So… What's the following distance out there?
30 MPH?



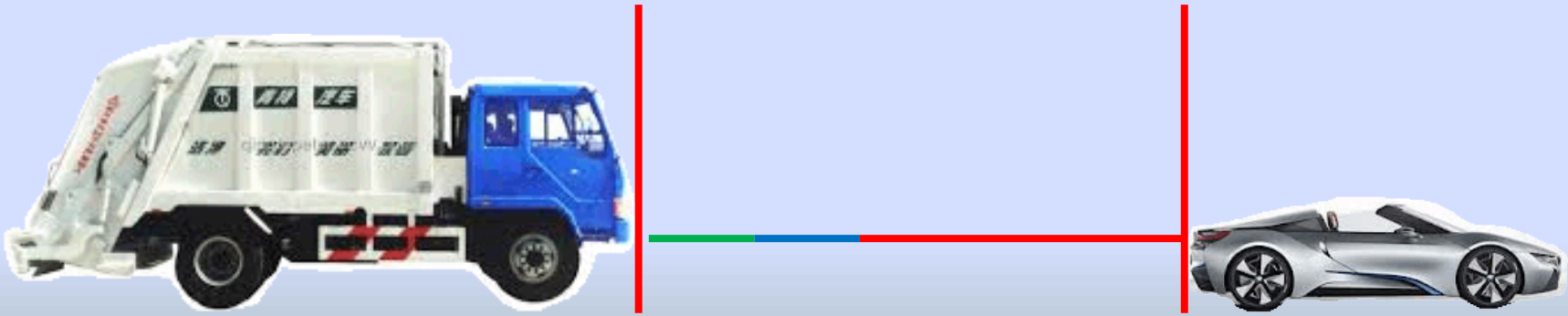
So… What's the following distance out there? What does ADOT Recommend?

- 1 second for every 10 feet of vehicle length for speeds below 40 mph
  30' truck = 3 seconds, 40' truck = 4 seconds, 50' truck/trailer = 5 seconds
- Add 1 second for speeds above 40 mph
  30' truck = 4 seconds, 40' truck = 5 seconds, 50' truck/trailer = 6 seconds



What adds to total stopping distance?

- Perception Distance — 1 second @ 30 mph = 34 feet
- Reaction Distance — 1 second @ 30 mph = 34 feet
- Braking Distance — ???



Actual Braking Distance

27 Yard, Drum, Loaded – 15,600 lbs

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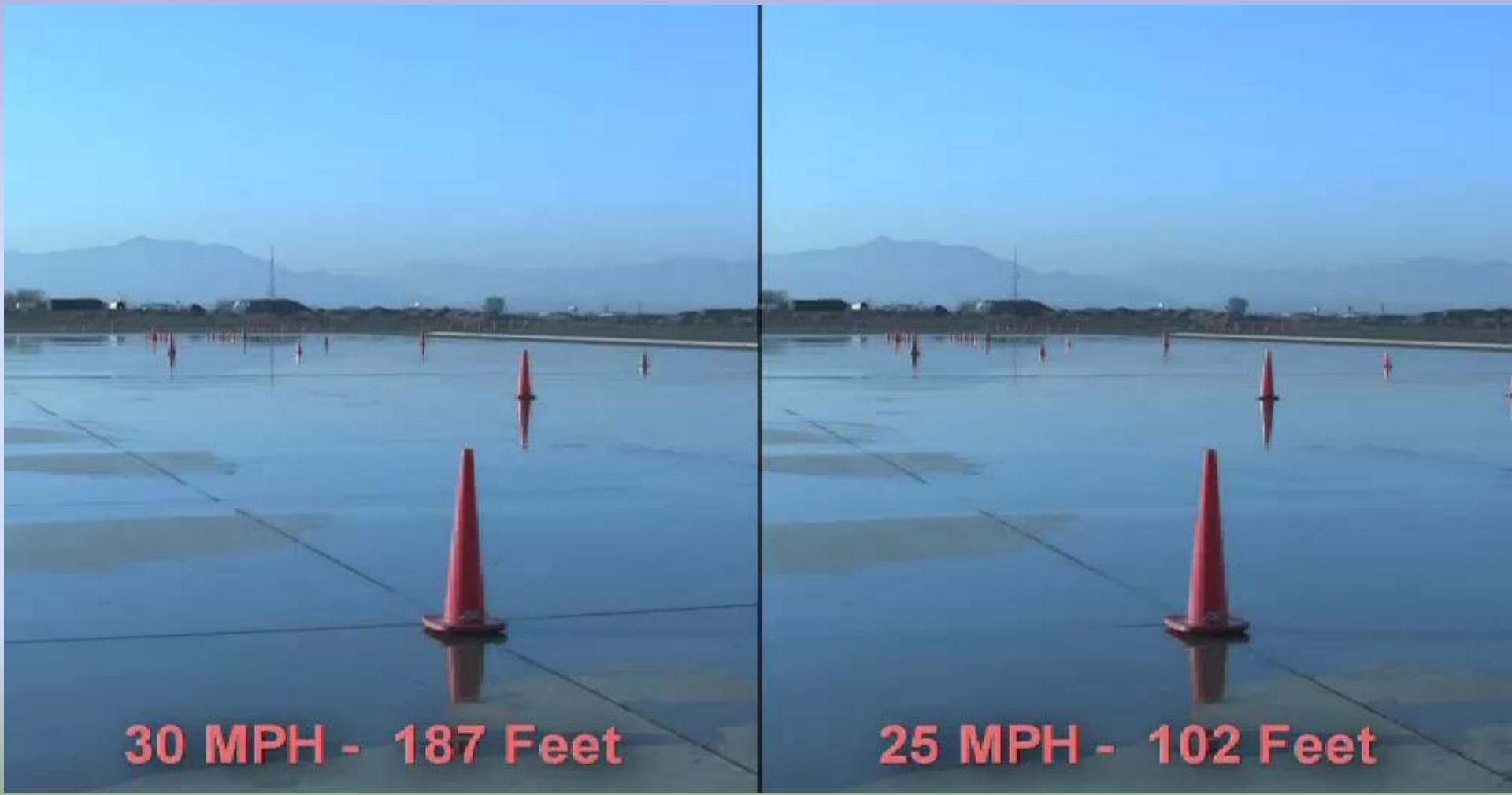
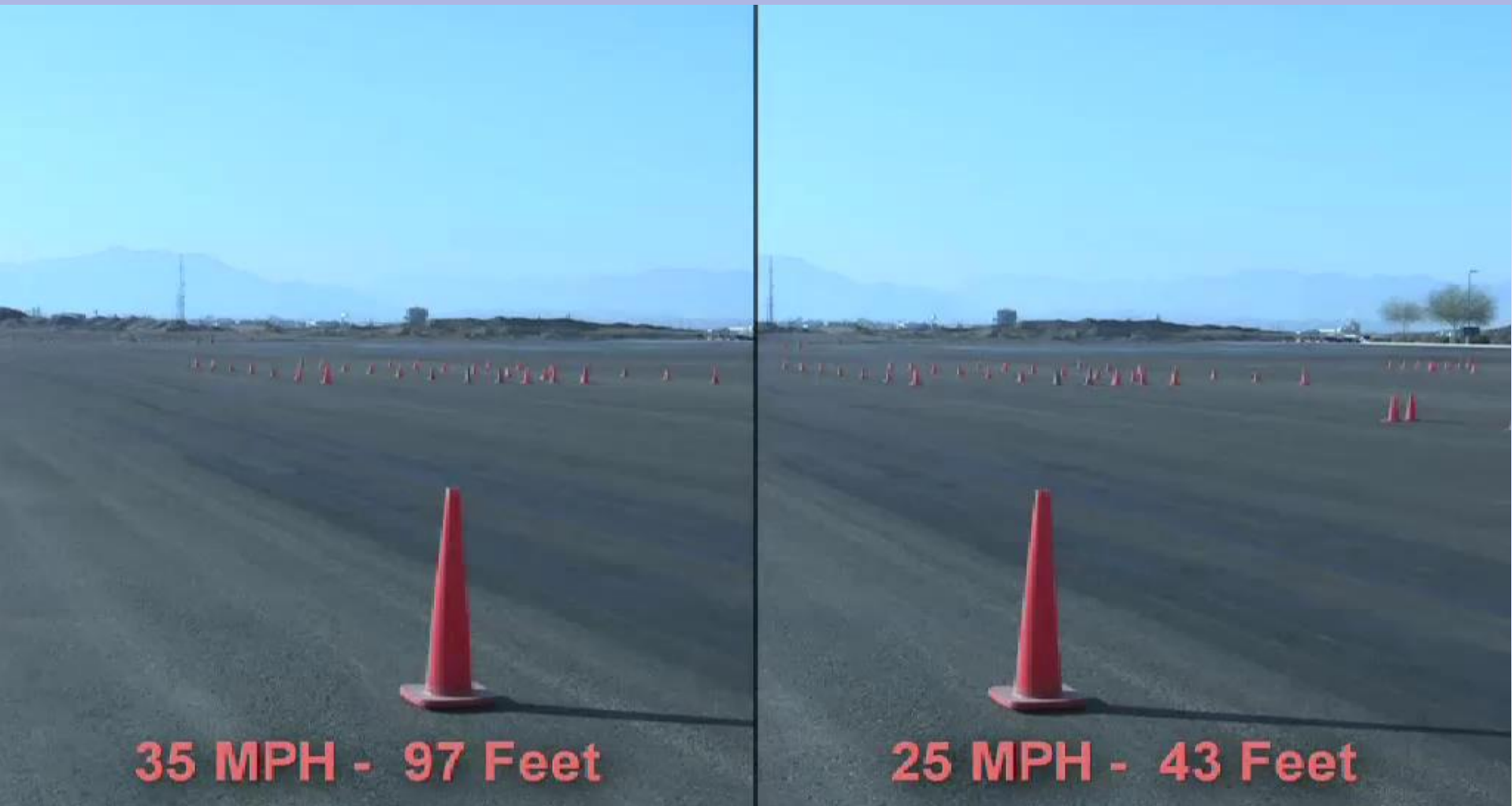


Actual Braking Distance

31 Yard, Drum, Loaded – 15,980 lbs



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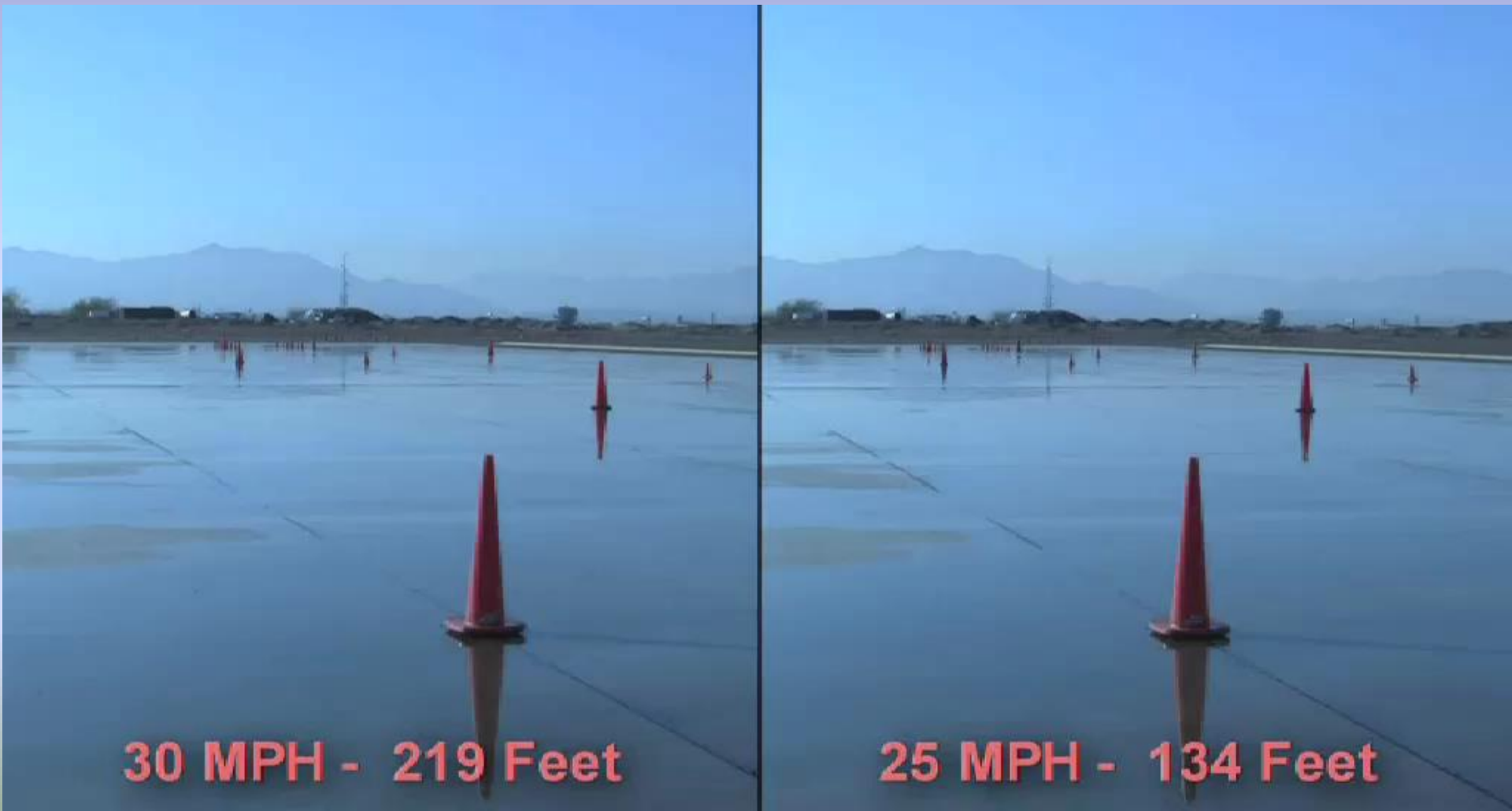

Actual Braking Distance

31 Yard, Disc, Loaded – 16,220 lbs

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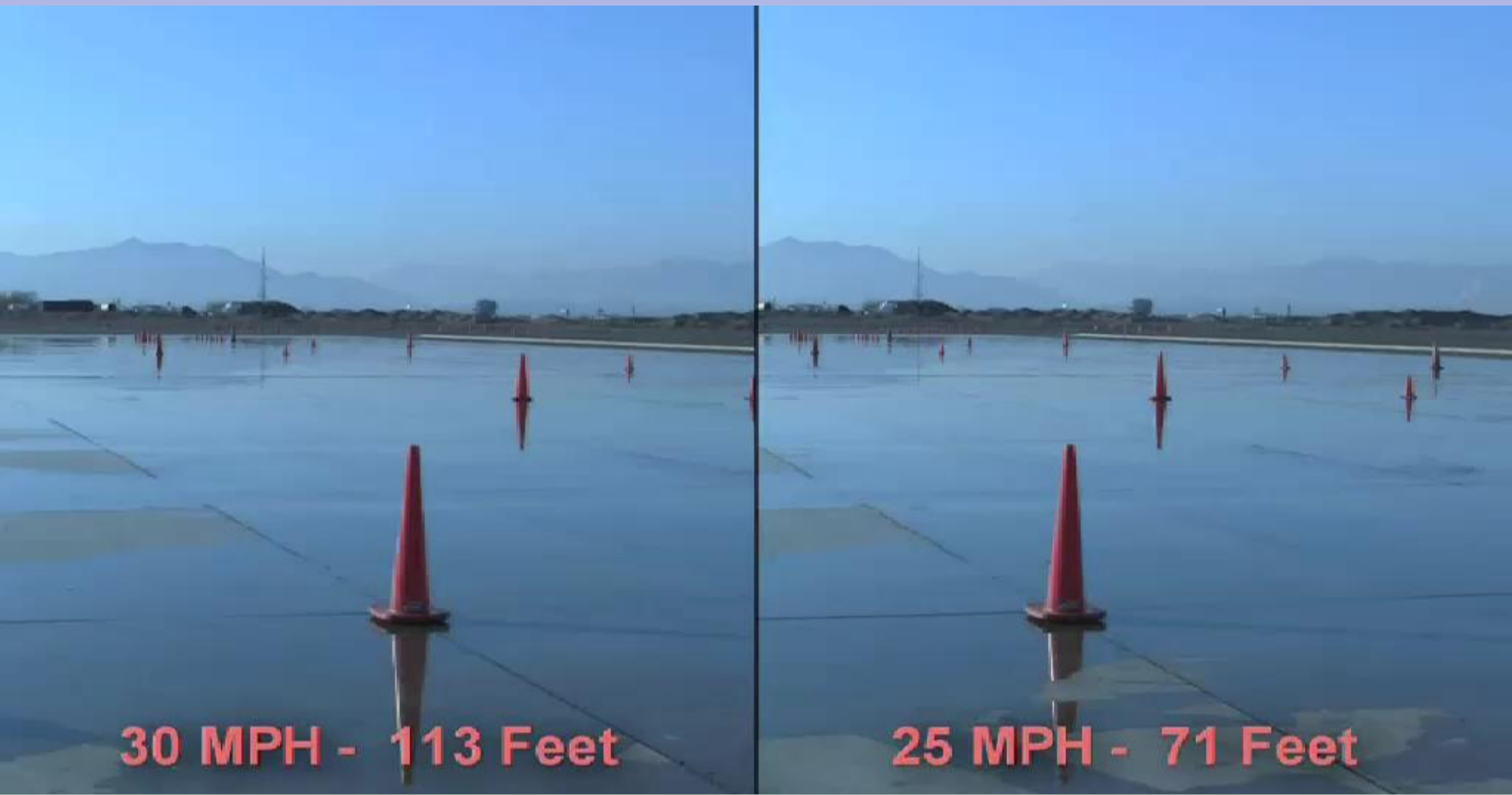
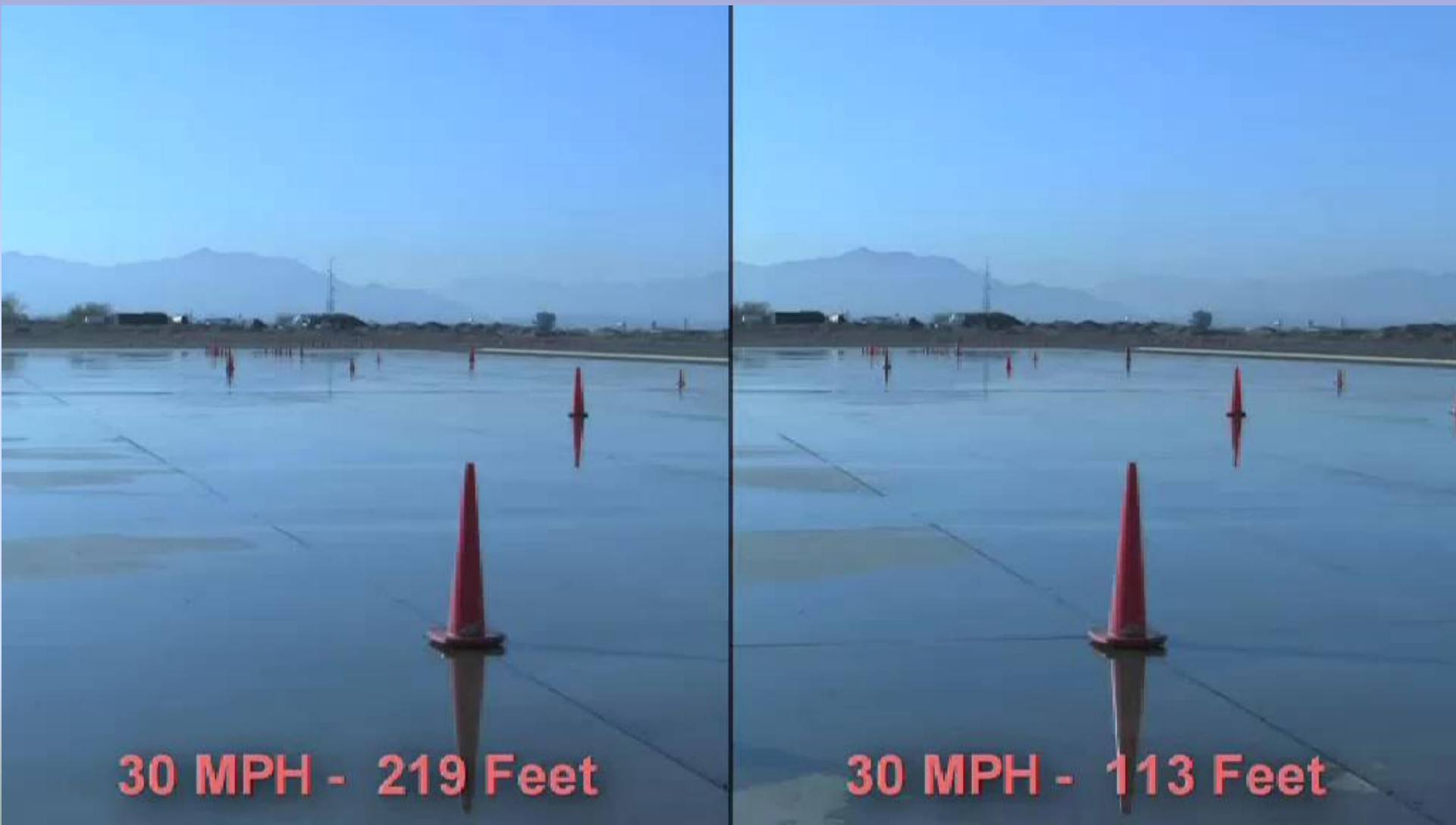


Actual Braking Distance

DRUM versus DISC

Actual Braking Distance

DRUM versus DISC



Actual Braking Distance

Rear Load, Drum, Kubota w/Trailer, Loaded – 11,440 lbs

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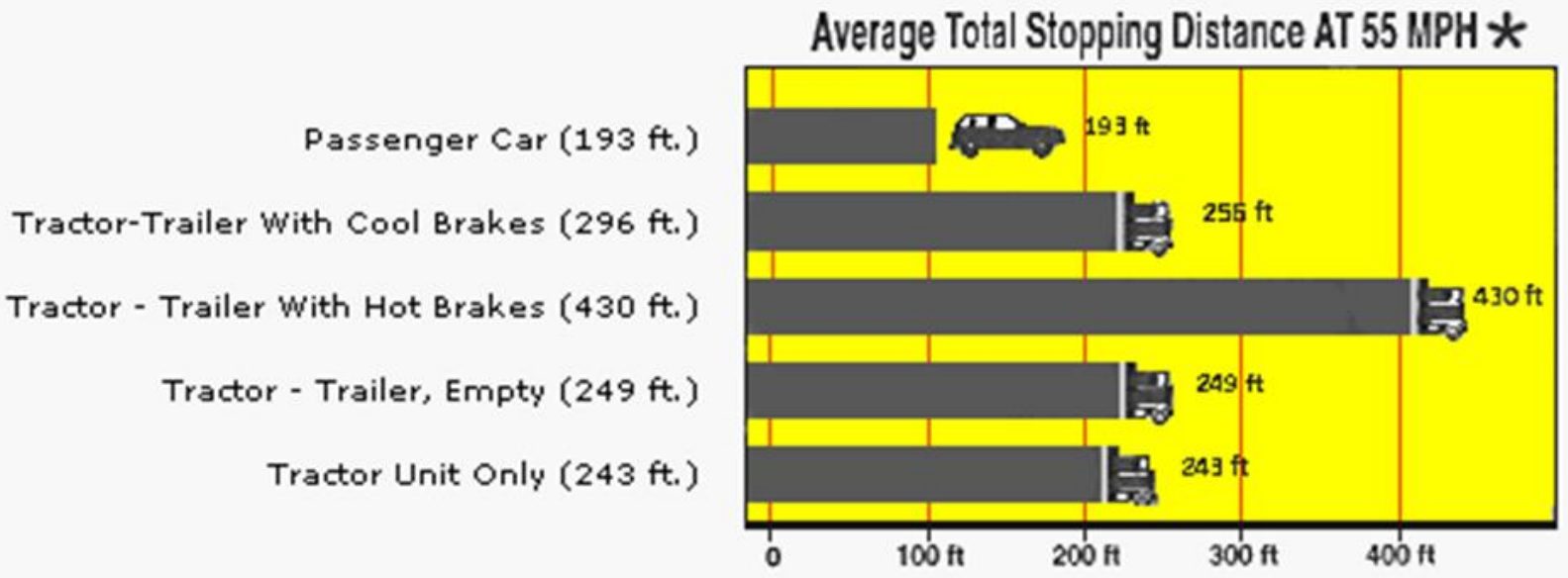
Rear Load, Drum, Kubota w/Trailer, Loaded – 11,440 lbs

Average Total Stopping Distance at 55 MPH *



* Distance based on a study of average braking distances by the Insurance Institute for Highway Safety plus reaction distance recommended by the National Safety Council.

Three things add up to total stopping distance:
Perception Distance
+ Reaction Distance
+ Braking Distance

= Total Stopping Distance