

FMVSS No. 121
Tractor Stopping Distance Rulemaking

**Summary of NPRM Comments
and Next Steps**

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Notice of Proposed Rulemaking

- Published December 15, 2005
- Comment closing date April 14, 2006
- 25 comments received:
 - Truck Manufacturers
 - Heavy Duty Brake Manufacturers
 - ATA and OOIDA
 - IIHS and Advocates for Highway Safety
 - Various other individuals

NHTSA's NPRM

- Identified the safety issue
- Presented braking research results
- Discussed preliminary cost-benefits data
- Proposed 20-30% reductions for all tractor stopping distance requirements in 121
- Two-year lead time from date of final rule
- 120-day comment period

Significant rulemaking activity - NPRM reviewed by OST and OMB

FMVSS No. 121 Tractor Stopping Distance Proposal

(feet, from 60 mph)

	Loaded	Unloaded	Emergency
Currently Req'd.	355	335	720
20% Reduction	284	268	580
30% Reduction	249	235	504

Overall Views on Reducing Tractor Stopping Distance

- 24 out of 25 comments support the overall goal
- Comments were divergent on how much improvement should be made
- IHHS, Advocates, Bendix support full 30 percent reduction
- Everyone else asked for 25 percent or less, and only on standard 3-axle tractors

PRIA Net Cost Per Equivalent Life Saved

For 30% Reduction:

- 257 Fatalities Prevented
- 284 Serious Injuries Prevented

	3 % Disc.	7% Disc.
Larger S-Cam	NB	NB
All Disc Brake	\$13,000	\$144,000
Disc/Larger S-Cam	NB	NB

Truck Manufacturers Comments on Typical 3-Axle Tractors

- Gross Vehicle Weight Rating less than 60,000 lbs.
- 82 percent of the tractor sales, and 91 percent of fatal involvements
- Brake suppliers are split on 25% vs. 30%.
Truck manufacturers are all in favor of 25%
- Four comments support 30%, and two support 20%

Truck Manufacturers Comments on Severe Service Tractors

- GVWR >60,000 lbs., w/high axle ratings, and three or more axles
- Seven percent of tractor sales, 5.6% of fatal involvements
- Data on two tractors (drum brakes) provided by TMA
- TMA cites lack of NHTSA test data on severe service tractors
- Many comments ask for deferred rulemaking on these vehicles

Truck Manufacturers Comments on 4x2 Tractors

- Two axle tractors, mostly lighter weight but a few with high axle ratings
- Ten percent of sales, 3.4% of fatal involvements
- Potential yaw instability issue raised when steer axle brake power is increased
- Many comments favor deferred rulemaking on these vehicles

Truck Manufacturers/ATA Comments on Two-Year Lead Time

- For 25% reductions on typical 3-axle tractors, two years is adequate lead time (e.g. 2009)
- For 30% reductions, more development and evaluation time would be needed
- No suggestions on 4x2s or Severe Service tractors. ATA suggests staggered implementation of requirements.

Truck Mfgs./Brake Suppliers/ATA Comments on Vehicle Modifications to Meet Proposed Regulation

- Changes in brake linings, brake chambers, and slack adjusters
- Larger diameter and wider drums/linings
- Air disc brakes
- Tires, suspensions, and chassis structures
- Packaging limitations exist within the wheels
- Electronic stability control may be needed on some tractors
- Vehicle weight could increase or decrease

Truck Mfgs./Brake Suppliers/ATA Comments on Brake Balance Issues

- Normal, low-pressure brake balance is important for even brake lining wear and fleet operator satisfaction
- Panic stopping brake balance is important for vehicle stability. Weight transfer is greater with higher deceleration rates.
- Aggressive steer axle brakes could result in steering wheel pull

Brake Suppliers Comments on Brake Burnish

- HDBMC requested that the old 121 temperature-based burnish be reinstated as an option
- Larger steer axle brakes will reduce the burnish on the rear axle brakes. This can lower the parking brake performance.
- Burnish issues not mentioned by vehicle manufacturers

Truck Mfgs./Brake Suppliers/ATA Comments on In-Service Maintenance

- Several comments on the need for improved maintenance of existing brakes
- Benefits of improved brakes will be reduced if they are not maintained
- ATA is concerned that technicians aren't familiar with air disc brakes or electronic stability control systems

OVIDA Comment on Cargo Securement

- OVIDA commented on the safety of cargo securement systems if tractor-trailers have higher deceleration capabilities

Brake Suppliers Comment on Wheel Clearance Issue

- Disc brakes require adequate clearance for tire valve stem

NHTSA Observations

- Enhanced drum brakes are already in use
- Stability Control Systems, independent of the rulemaking, are becoming prevalent

NHTSA Observations

ABS Maintenance:

- Increased brake torque could increase propensity for wheel lockup
- It is important that ABS be maintained in proper working condition

Next Steps

- NHTSA is moving forward with the rulemaking. Scope still being determined, based on testing and data.
- Final Rule - 2007
- Stopping distance testing on straight trucks continues at VRTC
- <http://dms.dot.gov> Docket No. 21462